

Craft and Contemporary Culture

by Seonaid Mairi Robertson

UNESCO / HARRAP

Anthony Maitland

CRAFT & CONTEMPORARY CULTURE

Every one interested in the crafts, whether student or teacher, or even those professionally unconnected with them, will be interested in this book. It deals not only with teaching crafts and teaching craft teachers, but with the whole place of crafts in the technologically advanced western countries. It has been the author's object to convey an attitude rather than to give practical information.

The book covers the following subjects: the definition of craftsmanship, the dilemma of craftsmanship to-day, craft education with children and adolescents, the training of craft teachers, the small workshop, rural industries, technical education, crafts and industry, the industrial consultant and designer.

reveals the important work done by craftsmen to-day, and the problems involved in the preservation of traditional crafts in the modern world.

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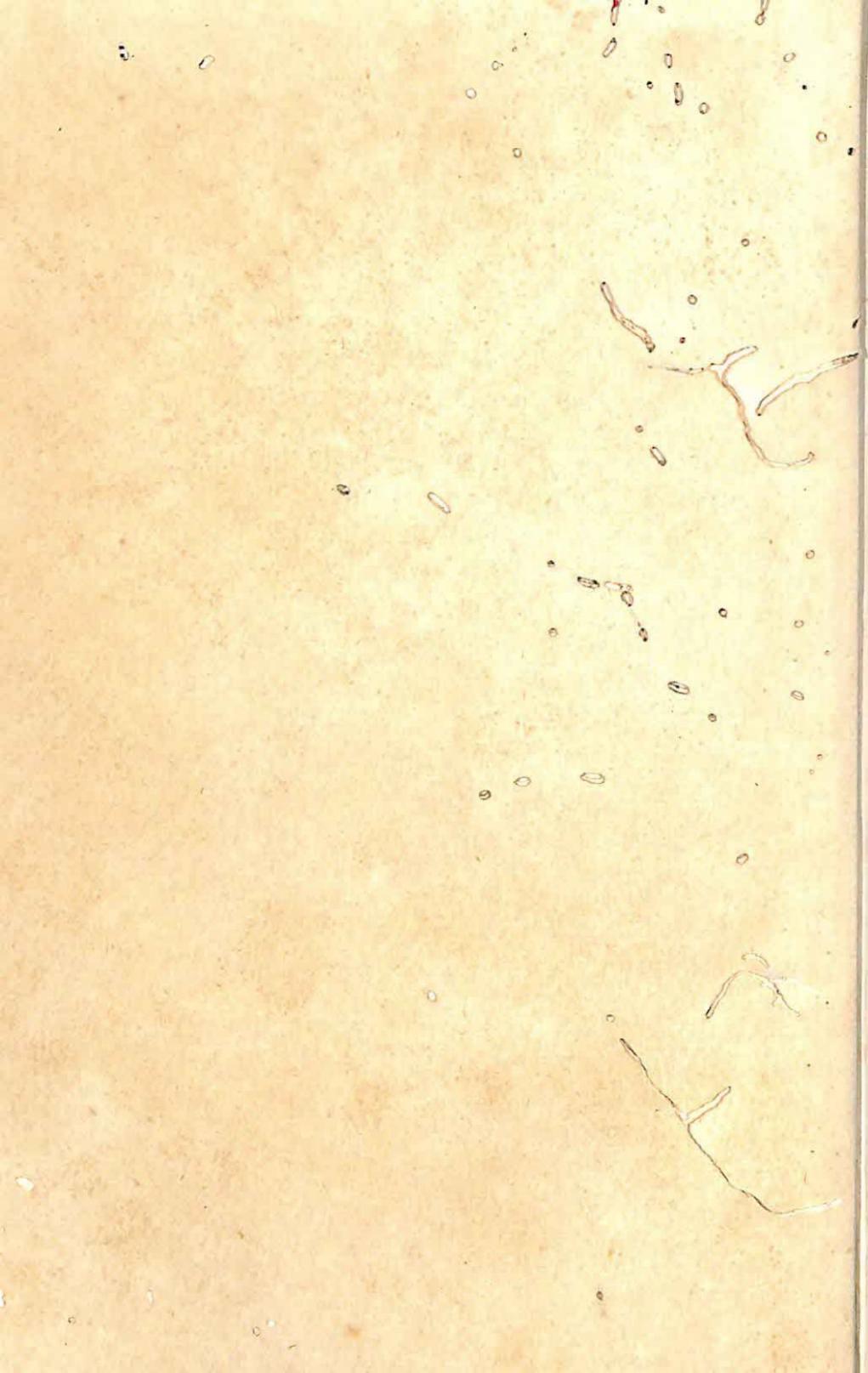
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The Palácio da Alvorada in BRASILIA, floating above the plain, combines an original use of glass and concrete with related crafts, such as mosaic, woven hangings, and the sculpture by Ceschiatti in the foreground pool.

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Seonaid Mairi Robertson

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Preface

IN 1954, AT TOKYO, U.N.E.S.C.O. ORGANIZED A SEMINAR ON ART and Crafts in General Education and Community Life, which was attended by representatives from many countries. On that occasion it was decided to publish a book on "the rôle of crafts in school and adult education," intended to treat the aesthetic, psychological, sociological aspects of crafts, their practice as an expression of cultural values for the individual in contemporary society, the industrial designer, and many other aspects.

When U.N.E.S.C.O. invited me to write the proposed study I was sensible of the privilege but all too well aware that to cover, even superficially, those sub-headings I was given, far less do justice to the whole, would require the work of many men for several years. As I grow older I find that I believe less and less in the power of organizations and more in the quiet work of individuals or small groups, to change society with the minimum of that sacrifice of the better to the good which afflicts all practical undertakings. Yet if there is one organization which has done much to bring together scholars, scientists, and educationalists of different nations and different faiths, and which can do much more in the future, it is U.N.E.S.C.O. Hampered by a sense of inadequacy as I felt, I was yet bound to attempt the study asked of me. Since my research work could be interrupted for only one term, I had to draw on the experience and contacts I already had rather than amass new evidence or attempt overall assessments.

From the nature of this commission, intended for the developing countries as much as the industrialized, and aimed at pointing out the blunder of letting craftsmanship die before sifting the "mystery"¹ for any meaning it might have in the rapidly changing world of to-day, it follows that it has at times been necessary

¹ This was the word formerly used to describe the totality of techniques, traditions, and inherent values passed on to apprentices of the craft itself.

to describe situations which are all too familiar to readers in technological societies, and on the other hand to labour to justify in words craft experiences obvious to those who live among them. Since it was not possible to assume any common background of thought on education, work, or religion, a study of such wide scope within a reasonable dimension must be very general. In an effort to avoid the dullness of a series of general statements—even from the viewpoint of one convinced individual—I have written a few of the illustrations as longer "interludes," in lieu of many brief supporting references which presuppose a common culture. I have thought it better to use wherever possible the words of craftsmen themselves, and to preserve the immediacy of the spoken word even where English was a foreign tongue to them.

The title would be too presumptuous if it were not that we are indeed become one world. Things for use speak in a universal language beyond politics and prejudice. In addition, the values of craftsmanship have their contribution to make in the machine culture which is spreading universally. I was compelled by that belief to attempt this study. I can only plead my readers' indulgence, in the spirit of furthering understanding which alone could justify this attempt.

S. M. R.



Acknowledgments

My first thanks must go to the University of Leeds, and in particular to Professor W. R. Niblett, the Director of the Institute of Education, for permission to interrupt a piece of research, undertaken as Senior Research Fellow there, in order to write this book, and for encouragement while doing so; next, to Bernard Leach, the potter, who was present at the seminar in Tokyo where the idea of such a study was proposed, for giving precious time, which one always deplores asking from an artist, to read the manuscript; to friends in several countries who answered queries and checked facts to the best of their ability; to the International New Education Fellowship, who in inviting me to teach my craft to people from many countries at their International Conferences confirmed my confidence in its appeal to teachers, scholars, and administrators alike; to those friends whom I shall not meet again to thank, such as the Jugoslav metal-workers, the Greek spinners, and the Cretan potters, to whom my knowledge of their craft was a passport and a language, and who therefore allowed me to share something of their life.

I also wish to thank the following publishers for permission to use quotations from works published by them—Chapman and Hall, Ltd, Peter Davies, Ltd, Editions d'Architecture Elenbach (Zurich), Faber and Faber, Ltd, Museum of Modern Art (New York) and Allen and Unwin, Ltd, Routledge and Kegan Paul, Ltd, Svenska Hemslöjdsföreningarnas Riksförbund and Lantbruksförbundets Tidskriftsaktiebolag, Stockholm. Details of all such works are given in the footnotes to my text.

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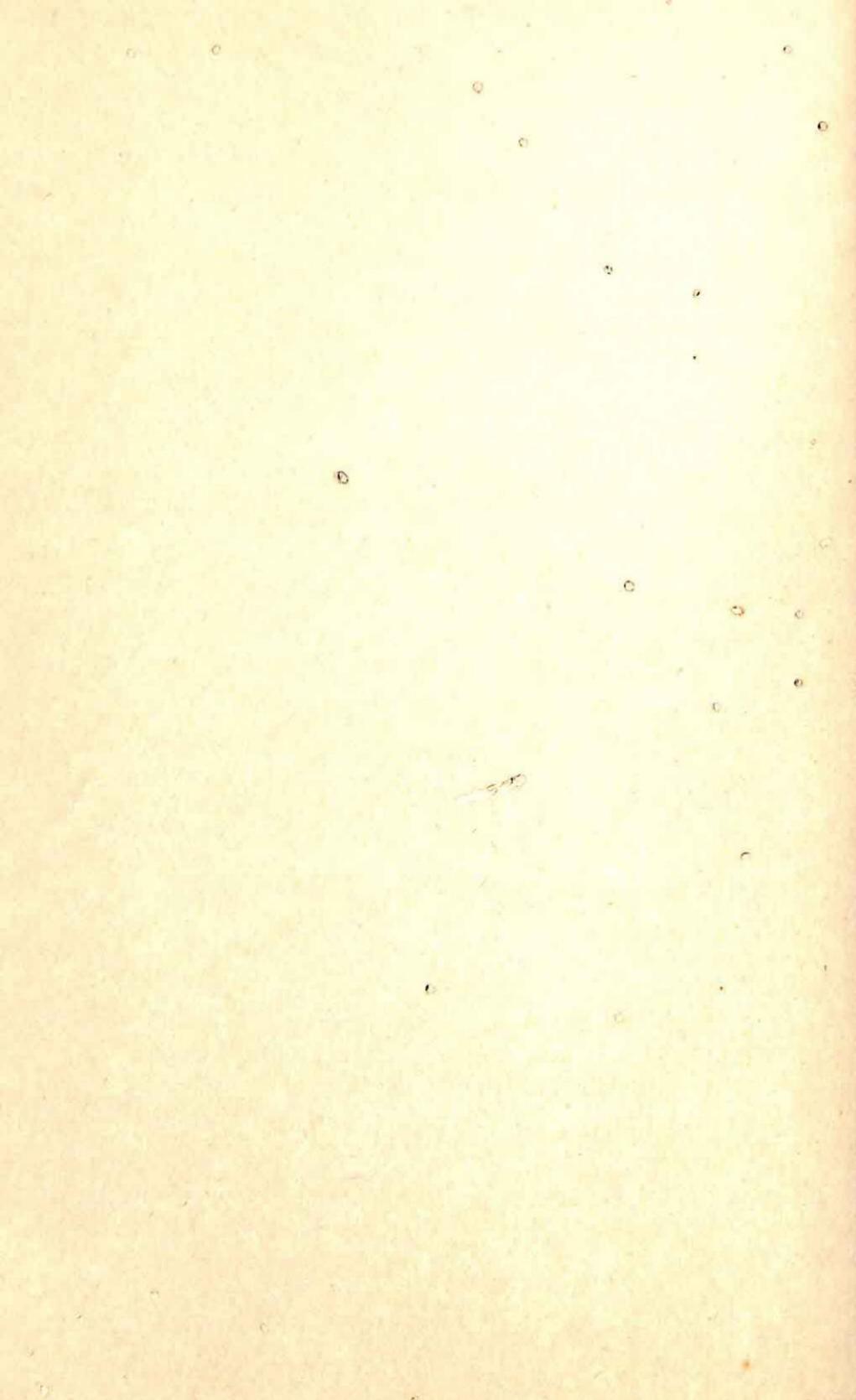
The children's drawings from *Kinderen uiten Zich*, on pages 45 and 80 are reproduced by kind permission of Jan Muusses, Purmerend.

Note

The message in Japanese handwriting on page 49, sent half-way round the world to greet this book, reads, "When one craftsman meets another as I, Mio-Mio, met you, Seona, there is no barrier of race or language."

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A Personal Introduction

I AM A POTTER AND AN EDUCATOR. I WISH THAT I COULD HAND you a jug which I had made, and invite you to pour your milk from it; invite you to get the satisfaction of gripping its sturdy handle, of feeling your body respond easily to the change of balance as the shapeless mass of milk, firmly contained within, is canalized into a smooth jet flowing clean from the lip. A well-made thing speaks to us as we use it. Or I wish I could invite you to join me with a group of children, not in rigid rows of school desks confronting a blackboard, but working hard in the open air, digging, constructing with bricks, building a kiln, gathering the woods which will burn best, watching their small flame grow into a conflagration, united in wonder, deeply satisfied in the human power of handling and controlling fire, which is one of the greatest forces of our world. Then you would understand much of what I would wish to say about craft and about education.

Crafts are such a fundamentally human activity that they are more basic than any one language, and I have found a bond with craftsmen of all the countries where I journeyed. I only had to ask permission by a gesture to be seated at the primitive construction that served as a potter's wheel for an aboriginal South American Indian, only to build a little kiln in the wilds of Calabria to bring the peasants eager and curious at the sign of smoke rising; only to thrust my nose into the leather to be embraced by a Maltese saddle-maker. In Greece, where the women spin all the time, waiting for customers outside their shops, walking to and from the fields, never without a distaff stuck in their belts, I ceased to rely on my two dozen words and instead took the spindle gently from their hands and started to spin the English way. Slowly their serious faces would break into a smile—that wise, slow smile which lights up the creased faces of old people—and in no time they would be leading me

towards their homes, offering a piece of 'turkish delight' on a stick, and dandling their grandchildren on my knee.

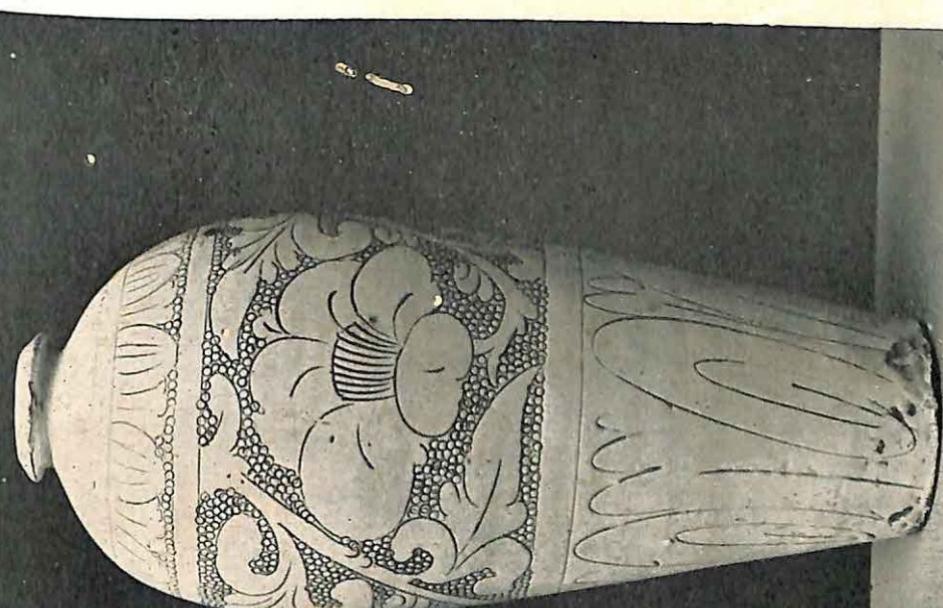
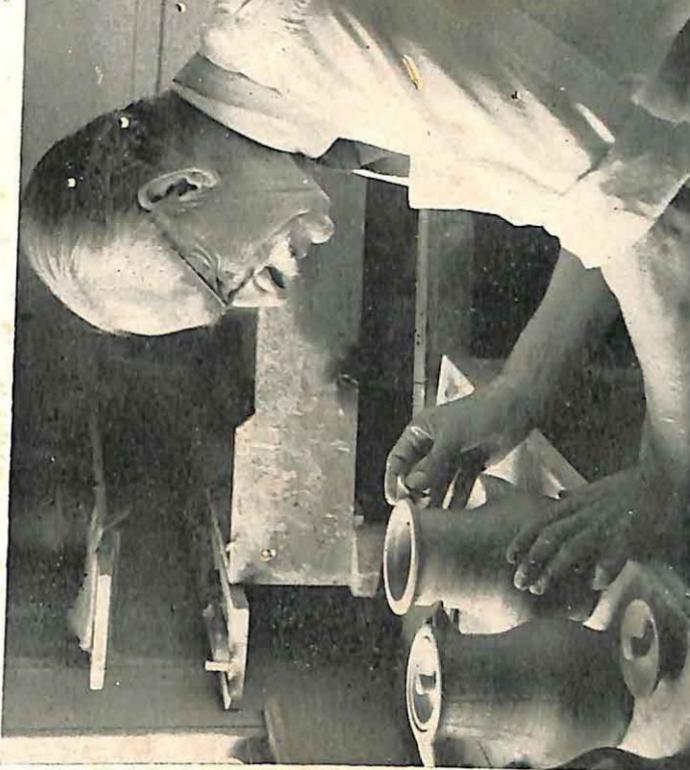
But I must speak with words, and these words not the mother tongue of all of us. We shall better be able to bridge the great gulfs of climate, culture, education, and tradition which tend to separate us if we remember always that the raw materials of our crafts, iron, wood, clay—while it is true that each batch of clay is slightly different, each tree has its own characteristics—are still iron, wood, clay the world over; and if we keep in our hearts the knowledge that a human baby, be he Indian, American, Chinese, or African, makes the same wriggles with his small body, treats a piece of stone, a stick of wood, any fragment of the physical world in just the same way (he grasps it, sucks it, bangs it, throws it, and clutches for it again); and if we remember also that he mouths the same sounds, the whole basic vocabulary of mankind, before he is persuaded to concentrate on and practise the language of his own people. Because we are all men and women, and because crafts are practised with the raw materials of one world, I believe there are some things which can be said which may be universally true.

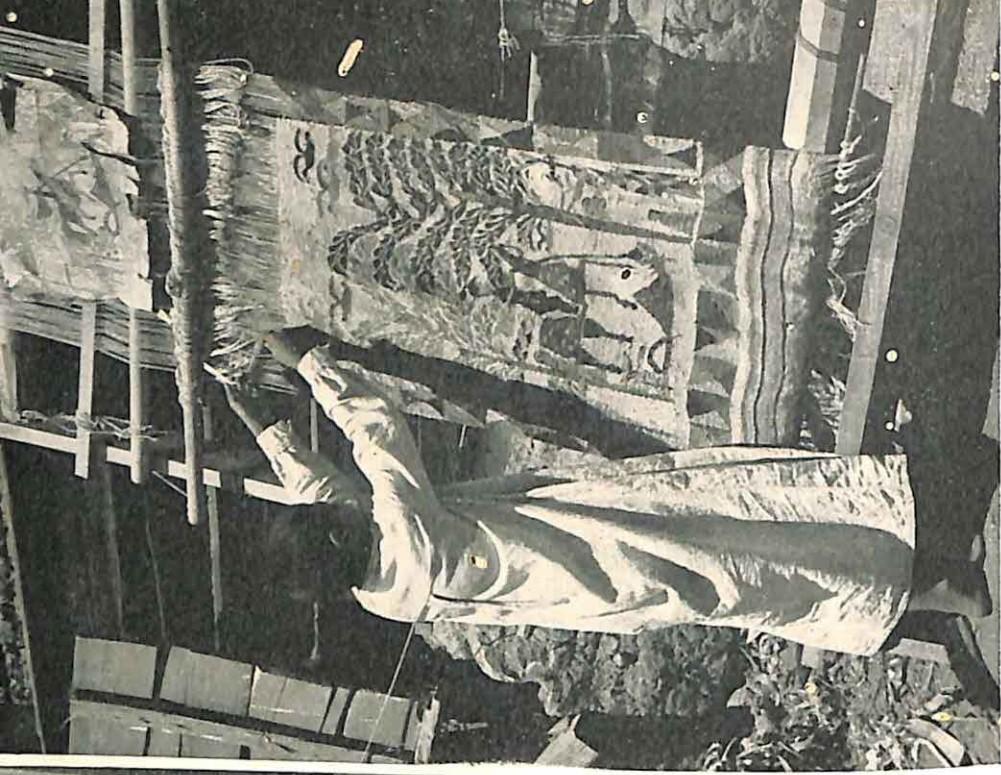
Yet I can only speak within the limitations of my own experience and of my own language, and I must speak within the limitations of my own culture. In western Europe we are the heirs of a rich tradition. Stemming from the roots of the vigorous Indo-European cultures, we can trace our earliest handcrafts as being closely related to those of the rest of Europe and of those parts of Asia and Africa washed by the Mediterranean. We suffered a constant influx of wave after wave of peoples, resulting in a rich intermingling of ideas and techniques. To be left alone to develop further the things one has, and to be brought forcibly in contact with other peoples, other ideas, provide two different, but each valuable, experiences. These islands, in which I grew up, repeatedly had both. There have been some periods when their relationship to the continent of Europe was far closer than it is to-day, when master masons worked for a few years on a French cathedral, a few years on an English, or when the aristocracy invariably completed their education by the Continental tour, and modelled their country houses on those of Italy.

But when the restless exploratory mind searched out coal and minerals in our soil, and the inventive persistent doggedness of our people harnessed the natural forces of water, fire, steam,

(Left) Sung pot, CHINA, with decoration scratched through white glaze, "moving forever in its stillness."

(Below) Bernard Leach, probably the most influential potter in the world, at work in his pottery, St Ives, ENGLAND.



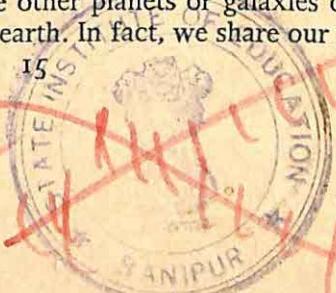


(Above) The Tea ceremony, JAPAN. (Right) Tapestry-weaving in Senegal, AFRICA. Notice the drawing above which the boy is interpreting freely as he weaves.

and later electricity to the production of materials; all things which would make life easier, pleasanter, and potentially richer, a terrible, a tragic mistake was made. In the excitement of new power, in the demands of the insatiable machines, not only were human beings set to live and work in conditions of inhuman degradation, but certain values were lost. The worst of the industrial cities of western Europe still struggle to rise above a century of slums, but new towns and new types of factories are spreading fast. Material things can be knocked down and replaced by better, but it is more difficult to recapture a squandered virtue. There were lost to the great majority of people certain spiritual values which were inherent in craftsmanship, in the responsibility of making good things well for one's family or one's neighbour, and the deep inward contentment of their use.

So it is with a deep humility that I of western Europe speak of craftsmanship to peoples of other parts of the world, knowing that many of them have preserved the values that we have lost, asking that while we may be able to offer to share with them our advances in science and technology for the better living of human peoples, they who still hold it will preserve the wisdom of craftsmanship for all of us. The world has need of it. We have so much—enough food for all of us, so much that we need refrigerators to store it, shelter so adequate that we need elaborate appliances to keep our possessions clean. Our hours of work are now for many people so comparatively short that the problem is to fill the hours of leisure. But that has been lost which many less developed countries have retained—something vital to human life. It is my fervent hope that those who still have this knowledge may come to value it sufficiently to hold it fast while they are striving for better food, more satisfying houses, reasonable hours of work for all their people.

For the first time in the history of mankind we are indeed become "one world." Not only has it become possible roughly to estimate how many people live on this globe and where, but even to go to another continent or encourage others to come to ours in a shorter time than it took our forefathers to cross the nearest range of hills. Amid all the differences of colour, environment, and culture which seem to separate us, what is it that holds us together? Fundamentally it is the fact that we all live on this planet; we have just begun to realize ourselves as inhabitants of one world; among the other planets or galaxies of this universe, we are people of the earth. In fact, we share our physi-



cal nature, the make-up of our bodies, because we share a common earth. True, it differs in its composition as to whether we live on a rocky or a sandy or fertile part of the globe, and our lives differ accordingly, but we all till the earth and live off its fruits and the fruits of the sea, and from it come the raw materials which make every single object we employ.

However much we manage to increase the output of the earth by artificial manures as has been demonstrated convincingly in the Netherlands, or by improving strains or plants as the Russians have done in the Arctic North, or by manufacturing materials like the plastics, we still have only this volume of earth, of salt water, and the air which surrounds us from which to do it. It is our responsibility to conserve and increase what is good, to preserve what we cannot use at present for future generations. This attitude of responsibility is one engendered by the crafts.

Why should I write about—or teach—crafts in an age such as ours, in which nations are either on the crest of a machine civilization or stretching hungrily towards it? Let me begin by saying plainly that this is no plea for a general return to hand-production. I believe that mass-production by machines is the potential agent which will make possible a lessening of labour, and a duplication of things worth having—good houses, sufficient clothing, better tools for agriculture, for water-conservation, better modes of travel. These are not ends in themselves, but conditions of a good life, and in getting them we dare not lose sight of what a good life is.

Secondly, there is not an inherent dichotomy between a tool and a machine. Men have been improving their tools in order to do the job more quickly and efficiently since the beginning of time. Even the Industrial Revolution has been proved less sudden than once appeared, having its origins in medieval times, and gaining a terrific momentum in the nineteenth century rather than turning a corner. But the craftsman's tool is within his grasp, under his control, and he wise enough not to use a tool he cannot control. Machines are not the all-powerful impersonal demons sometimes suggested, dominating our lives by some inherent power of their own. Machines are chosen, designed, erected, and operated by men. And yet it is true that many of us live our lives at their mercy, desperately trying to adapt our pace and requirements to them. This is because we will not make wise choices as individuals and as communities as to when to

choose the machine because it serves our true purpose and when to reject it because it makes inhuman or de-humanizing demands on human beings or because it comes between us and that with which we want to make contact.

Nor do I believe that there is an essential antagonism between the acceptance of the machine age and acceptance of craftsmanship. As industrialization spreads many people will necessarily work in factories, and the problems are to create the best conditions there and to help them towards a proper pride in their work and a satisfying use of their leisure. There will still be the opportunity for the man who likes constructing or mending with his hands to work in that way, and the choice for the exceptional individual to live by creative craftsmanship. There will be the personal choice for each of us at some time between something mass-produced by a machine or something made by a craftsman, and sometimes one will be more appropriate for us, sometimes the other.

It is from no romantic retrogressive attitude that I say I believe we need craftsmanship in this 'machine age.' I say we need it for three reasons:

(1) We need the occasional devoted artist-craftsman giving up his whole life to work at his craft, because craftsmanship embodies certain values and a depth of direct understanding of materials possible only to those who spend most of their lives pursuing and exploring that relationship. Just as we need pure scientists, musicians, poets, mystics, we need pure craftsmen, so that the growing-points of certain aspects of our culture can feel their way farther, and that those of us who spend our lives in other ways can ultimately benefit by the illumination of their experience and delight in their productions.

(2) We need craftsmanship because these very machines are now, in the occidental world, reducing the hours of work so drastically that the problem is how to spend the resulting leisure time. Unless people are to be left at the mercy of passive forms of entertainment they must be helped to re-create themselves through some form of recreation. As the present "industrial counter-revolution" and the rising demand for craft classes and "do-it-yourself" movements testify, craft offers this satisfaction at whatever level any person is capable of achieving, because it is a fundamental activity rooted in man's nature.

(3) We need craftsmanship in education, in a machine age as much, if not more, than any other, because it is a fundamental

mode of education, through which the child explores, discovers the qualities of, and comes to terms with the world in which he lives. Craft develops personal qualities through this relationship with the material, leading the youngster not only to self-expression but to an understanding of the 'otherness' of the physical world, which he must honour if he is to create in its substances. In addition craft embraces much of that other side of education, the induction of a human being into his culture, for he meets, not in books but first-hand in actual objects, so many of the values inevitably embodied in the buildings, the utensils, the treasures handed on. And each generation must make explicit its own values in contemporary forms.

There are two other justifications for the practice of crafts, by which it is hoped to raise general standards of design, which I cannot put in the same fundamental category as these three reasons. These are the "education of the consumer" and the "training of the industrial designer." Both of these, I believe, have a double content, the practice of a craft—by which standards of workmanship are attained—and the study of materials, principles of form, etc.

Valid though they are, I do not include these two reasons as of equal value with the three fundamental ones, because they are relative. Even though the public were educated to appreciate and the designer to produce designs of far higher standards, the three fundamental human reasons would still remain.

The bearing of the artist-craftsman on education, and of education on leisure activities, and many of the cross-currents and indirect relationships which exist between these three will be explored in the pages which follow.

PART ONE

I

On being a Potter

BECAUSE I PERSONALLY HAVE GAINED SO MUCH THROUGH THE practice of my craft, may I try to explain something of what it means to be a potter?

One takes a lump of clay, the very stuff of this earth—clay which was once hard granite, thrusting in sharp blocks out of windswept moors; granite which softened through countless ages of time, and which eventually decomposed into clay which was washed down by the rains into the beds of rivers spreading at flood-times over the flat valleys, where, among the coal-seams or the gravel-beds, we now find it.

To be a potter means to take a lump of clay, plastic from its damp, thousand-year-long journey to the potter's bench, and to work it to increase that essential plasticity. Families of Japanese potters, we are told, used to lay down clay for their grandchildren as European connoisseurs laid down wine. A good clay, like a good wine, has a bouquet. Clay waiting for use may be exposed to the sunlight and the frost, but never allowed to go quite dry because its precious plasticity depends on each molecule rubbing up against its neighbour in a little film of water.

The clay is thinned with water to help it through the sieve which sifts the stones and grit, and then it has to be worked into a more plastic state. This can be done by plunging the hands elbow-deep into the dark mass and squeezing the soft handfuls through the fingers. But better still, is the traditional method of 'walking the clay' in a great tub, stamping up and down, treading the soft, squelchy mass underfoot till it grips the heels and almost seems threatening to engulf one. By this time one's body is becoming deeply aware of the clay, and other awarenesses are falling away. One seems to have gone down into something unformed, primeval, and almost given up oneself to it. As the clay firms up underfoot one cuts a lump of it with a wire and works it between the hands with a rotating motion whose rhythm is

imprinted visibly on the shell-like form which results. This breaks up stray bubbles of air, and gives the whole mass an even consistency. Not just the arms but the weight of the whole body is involved in this, bent on it, in a rolling motion, which often induces a humming or singing under the breath. So the first simple shaping of the inert mass in this shell-like whorl comes incidentally in the process of preparing the material. Now it is ready to be rolled into balls for thumb-pots, or into coils for building, or thrown on the wheel.

Not only does the clay of one district differ from that of another, being sandy, short, pliant, supple, flaccid, slimy, but every batch of clay has its own character and its own qualities. In a deep clay-mine slight variations in the type are often detectable through bands of colour on the clay cliff-face. In the best clay-mines the clay is dug and sorted, not by a large-scale mechanical excavator, but spadeful by spadeful. In previous encounters with this batch of clay, in handling, kneading, wedging, and in working on the wheel preparatory to making the shape, the potter is 'getting the feel' of this particular batch, and discovering how it reacts to pressure and to pull before he is quite certain what can best be done with it. This is why a good craftsman does as much as possible of the preparation of his own material, and why students and children must do so. One is sensing the feel of this particular batch (as in the case of a carver, this piece of wood or stone, and in the case of a spinner, this batch of fleece.) In addition, this leisurely preparation, which cannot be hurried, entails three things, which might be summed up as letting go, going down into the clay, and shaping from a new centre. Potters will know in terms of clay what I mean. I shall try to put it in terms of words. First, there is a slowing tempo, a relaxation from the pace of life to the slower rhythms of craftsmanship, which are bodily rhythms. The intellectual grasp of things—all one knows *about* clay, *about* the processes—fades into the background. There is a withdrawal from reliance on these, an acceptance of the direct sense-contact, of the validity of a different kind of knowledge, of the willingness to have nothing between oneself and the clay, almost to *be* the clay. Now, in this state of openness, receptiveness, the hands and the clay between them evoke images of forms, associations of other pots drift into the mind—or rather into the fingers—tentative, dissolving, and reforming, as shapes felt within the body in their hollow or swelling forms. Then, emerging imper-

ceptibly from a number of merged images, one rather than another, one not yet grasped but only glimpsed between the fingertips, is directing the shaping more explicitly, directing with mounting tension, till a quiet, deep, but still relaxed concentration narrows on the shaping of the final form.

But the act of creation is not the few moments occupied by the actual throwing on the wheel, or the last chippings to reveal the final sculpture. It is the whole process in which every stage springs organically from the last, and in which the controlling hands sense the further possibilities; an interaction of man and material.

We left the material at the point where it is ready to be thrown on the wheel. 'Thrown' is precisely descriptive of the beginning of this action. The experienced old potters do hurl it on to the centre of the spinning wheel. Here, laved in more water, the lump is centred between the hands but with the whole body. The weight is taken on the ball of the foot and one is conscious of the force of the solid earth, which is felt through the muscles of the calves, of the thighs, of the loins, of the shoulders, a force drawn up and directed downward through the arms so that beneath enveloping hands the thrust of the earth is poised against the thrust of the centrifugal force of the wheel. To learn to use one's body thus as a mediator without strain, to centre the lump of clay until it spins like silk beneath the fingers, that is a perfection of co-ordination, an exquisite sensation of wholeness.

Clay may seem to the onlooker impersonal inert stuff, but the potter knows that clay on a spinning wheel has tremendous force. Let it get one fraction out of true, and the whole lump may swing up and hit him in the face. When the potter has got his clay completely under his control, he draws it up between wet hands in a tall pillar, and presses it down again to a squat beehive, and draws it up and presses it down repeatedly, persuading, as it were, the clay to be flexible and plastic, enticing it into the way it has to go, in a rhythm of thrust and recession. The idea which the potter has held in his mind will be modified a little this way or that at this stage, according to how the clay answers to his fingers. Now, still spinning firmly on the wheel, he centres it finally and perfectly, pausing for a moment to confirm its absolute gyration. Then he plunges his thumb to hollow the centre, allowing it to be sucked down into the very heart of the mass so that the solid pillar is opened into a hollow

kernel. Next, the base of this hollow must be flattened with an outward stroke, and the thickness of the section between sensitive thumb and the inanimate wheel must be sensed precisely. (Previous practice in making pressed dishes will have refined his perception through thumb and fingertips.) When the base is pulled out into a small circle for a tall pot and a wide circle for a flat pot or bowl he begins to thin the walls by drawing the hands up with the clay spinning between them. The first finger of the outer hand is crooked to form a pad of sensitive flesh, and against this the braced fingers of the hand inside the pot are exerting a pressure precisely calculated to lift, by repeated unbroken sweeps, this weight of spinning clay to the height which is needed. (A nice calculation of the clay section between living finger and thumb may have been developed in making thumb-pots.) From the resulting cylinder shape, tall or short, all pottery shapes are formed, and the belly sweeps outward, or the neck stretches upward, according to the potter's conception of his vessel and its use. The whole flat of the hand tapering to the fingers may stroke the inner hollow to its final sweep, leaving the taut, springing curve of the body standing in space.

The foot, on which it stands firmly gripping the earth, and the poise of the neck, must give a certain finality, hold the thing, now a separate entity, contained within its own skin, distinct from the shapeless clay and half-realized pots around it in the workshop. The edge is crucial because it defines the opening. In a drinking-vessel it must be fine enough not to be clumsy in the mouth, but if it is too fine the clay, in drying, will contract too much at this, its weakest, most exposed point, and develop cracks like the contracting surface of the earth. In vessels formed to pour, to give out their contents, the edge must be stretched to a projection in the lip, and the inner hidden surface turned outward to form a channel between inside and out. It must control the impetuous liquid to a jet, and also provide a smooth, unbroken channel for both the full gush of the fluid and the thinning stream of the last drops. In the lip the jug reveals itself. The potter speaks of the hard silica, the softer flux, the protecting glaze as the "bones, blood, and skin" of a pot, and there are indeed many human associations.

The handle requires quite different treatment. Here a strap, narrow enough to be grasped by the human hand, has to take the strain of lifting, a strain pulling on one axis, yet holding the weight of the full walls of the belly pressing in every direc-

tion from the inside. Therefore the clay for the handle is strengthened in a special way. A tall cone of clay is held lying in the left palm, and the point is tapered into a long tail by the right hand, which is kept constantly wet, stroking always in an outward-and-downward direction. So all the molecules are laid smoothly in their film of water, parallel and overlapping, so as to accept the strain. When it has been stroked to the required length this circular or oval strap is broken off, and the broken end applied to the prepared surface of the pot with swift, splaying strokes. The handle should then seem to spring from the body of the pot, enclosing a hollow which is comfortable to the hand and on the eye, while the play of the curves of tension and distension should satisfy from every side.

It is no use trying to bully the material, or to impress it with one's own originality. One has to know the point beyond which it cannot go. The master craftsman, who has served his long apprenticeship and knows his material intimately, works always with his material, finding in that union the deepest satisfaction. Tradition enshrines the knowledge and the satisfactions of generations of a community. It is "more than one man deep." Tradition respects the natural limits of the material, and embraces its richness; acceptance of a tradition sustains and protects the craftsman while leaving him freedom to be wholly himself within its range. Then, once in many years, comes the genius, who, having served and understood his material, suddenly by an act of faith extends these limits, and shows us that this material is capable of uses undreamed of.

Even when the pot is shaped it is, of course, far from finished. The potter will throw a few dozen or a hundred pots in a day, but then they must be watched and guarded because the atmosphere is always changing, and they must dry slowly and evenly, being turned upside down when the rim is dry enough to bear their weight. The base may be thumbed down to give stretch and breadth, as in the medieval pitchers; or its thickness trimmed with a knife or a bamboo in facets to play off a more angular shape against the circle, as is done so exquisitely by the Chinese; or when 'leather-hard' it may be exactly centred bottom up upon the wheel, and trimmed with a metal tool, as is the custom with most contemporary pots.

Perhaps the pot will then be decorated with incisions, in which the glaze may ultimately collect more thickly and produce a pattern of a deeper colour; or it may be decorated with

coloured slip (that is, thin clay) formerly from a cow's horn, but now more frequently from a glass or rubber trailer, driven out in patterns by controlled contractions of the hands; or perhaps the slip will be painted on the leather-hard surface of the pot, dropping generously from a short, stubby brush, whose hairs were put together carefully one by one. Good judgment in the type, the weight, and the spacing of this decoration in relation to the pot develops slowly over the years. Any decoration should enhance and counterpoint the essential quality of the pot. Yet some of the world's most perfect pots are quite undecorated, relying on the relationship between form, colour, and texture to make their statement. In any of those processes, as well as in the fluxing of the glaze, even the most skilled potter allows for slight variations in the strength of stroke or flow of slip. He cannot adopt an attitude of rigidity, of demanding a strictly pre-conceived effect if the decoration is to have vitality—that vibration which is like a drama enacted between the potter and his pot. Each must be prepared to respond to slight variations in the other's behaviour. This attitude of attentive responsiveness, of accepting and using the accidental within the limits of the general conception, is one that separates the craftsman from the technician. But it also separates those who must direct life exactly into the shape they have built to contain and utilize it from those who can accept and respond to its flow. Perhaps there is some kind of analogy between using the flow of wind and water to sail a boat and driving it against them by steam or oil. We all appreciate the power and regularity of the steamer service, but those who have known it would not forgo the vital sense of being *more alive* when the tiller is responding to every quiver of the elements, and one commands a power greater than oneself. (This sense is subtly different from that of commanding a powerful machine.) Perhaps to the potter this is most manifest when it comes to firing.

Having laboured over the work, brought the whole of his mind and body (quite literally) to bear on the making of his pots, having perhaps risen early or waited up late to turn them over as they were drying, or to seize the right moment for decorating one which dried unpredictably, the potter must submit them all to the fire in order that they may be turned from fragile, impermanent dry clay to sturdy terra-cotta. In the early days of becoming a potter one loses many, many pots in the process of acquiring control of the muscles and of the wheel.

With growing discrimination one discards many pots where the decoration proves unfortunate, puny or trivial or overbold. Those pots which have survived the hazards of the shaky elbow, the unpredictability of weather, the over-prodigal flourish of slip, those which have been permitted to live because they speak in clear accents, are three times precious. Those pots, cherished as carefully nurtured children, must now be submitted to the fire. Modern electric kilns can be controlled fairly precisely, and in a factory where, because enormous numbers of identical pieces are demanded, huge batches of precisely mixed clay and glaze materials are used, the predictable and repeatable can be produced after long trial and error. But even with a small electric kiln, far less wood, coal, or oil, unless the potter adopts one clay-paste and one temperature and one graph of firing and sticks to those, the results may vary a little each time. From that very unpredictability the most lovely, as well as the most disastrous, pots will result. The Japanese potter who finds an unexpectedly beautiful effect of glaze bows to the kiln and says, "thank you." So, instead of searching for factory precision, we can seek to explore fully simple means, to dig a hole in the ground and build a kiln; to gather wood, and put a match to frail shavings and little sticks, and see the flame lick up; to bend over it, and tend it, and add more wood till the smoke swirls up from the chimney and the fire begins to crackle and roar; to sit up over it in the dark guarding it, not too slow, not too fast, picking with a practiced eye the exact piece of wood or coal to place just here or there to bring the final burst of heat.

I have not spoken of the other spells of more analytical work, of the precise measurement and careful recording which are also necessary. These will be more familiar to workers in other fields, who must also analyse results, combine, assess. The potter needs both of these sides to his nature.

But, in being a potter, one is working the whole time with fundamentals, learning "by a slow infiltration of clay into the bloodstream," that one is part of a world which is plastic and adaptable, and whose inert masses can be utilized for the formation of useful and lovely things, but which in the last resort retains, even for the most skilled technician, something of the unknowable. In every art there is an area of the unpredictable: the artist is never completely in command of the final production. The musician is dependent on the imaginative interpretation of his work, and the dramatist on the production of it.

They can make clear to some extent their intention by exact directions, but the final work of art is given life by its interpreter. In the visual and plastic arts no other person is required as interpreter, so the work speaks more directly, but an element other than the artist contributes, since he uses a physical material. The dancer, in control of his own body, has no 'area of uncertainty.' With the experienced painter working with manufactured paints of reliable composition, the area of uncertainty is very small; he can manage his paint, he can foresee the finished effect, and only occasionally is the happy accident accepted as an integral part of the finished work. But with the potter the material plays a greater part in the inspiration and in the final form. The struggle with the material, which is part of all art, is thrown into relief as a physical effort to control the clay. And this struggle alternates constantly with the receptiveness needed to receive and accept images from the forms clay takes beneath the hands. But the submission of the artist is most clearly seen in the potter's relationship with his kiln. When his precious work is submitted to the fire he contends with an element which is immeasurably greater than himself, and he accepts the variety of the results. Some adults who wish to master and control their work completely cannot accept this element of unpredictability, but in my experience all children can come to accept it, except the most emotionally insecure. In fact, the exploring and controlling, the working with earth and learning the lubricating power of water, the drying qualities of air and the chemical changes wrought by fire, are in themselves one *mode* of education. The choice rather than avoidance of physical work with bare hands, the persistence which must be developed to remake again and again, the courage to destroy unsatisfying work, the acceptance of our limited control of the elements, the imagination to see how natural effects can be extended in new ways, all these develop imperceptibly over the years, and the personality is moulded by them.

Perhaps any craft, certainly many skilled sports, have this quality of being so near to the bone that they are analogies of life itself. But I know this best through pottery, which offers such a range of experience, and challenges one to develop such varied qualities, that I would want all children to have the opportunity to make shape and colour and texture through an understanding of clay, water, and fire.

Towards a Definition of Craftsmanship

ANY WORD LIKE "CRAFT" USED BY DIFFERENT GROUPS OF people in the overall senses in which they have encountered an aspect of craftsmanship tends to become a vague, amorphous term of indefinite extent. It is necessary to try to define the term craft in order to clarify these different meanings. I shall try to do this in two ways, by excluding certain activities which are not in my sense crafts, and by indicating the most potent meaning of the word, the core round which other meanings group themselves.

I think we must all agree that CRAFT involves the idea of skilled labour in materials. 'Craftsmanship' is not to be identified with 'handwork.' First, there has lain behind the word 'hand-work' since its introduction into education the idea of manual dexterity, of manipulation, and usually of hand or hand-and-eye training, almost as opposed to the training of the mind. This is very different from the attitude which sees craftsmanship as the whole body involved in an expressive rhythm relating mind and material for a specific purpose in the world of men. In addition, the craftsman has evolved tools. The professional craftsman does not glorify a primitive means as such; in fact, he emphasizes his tools. He is very much attached to his tools, he takes them up with as much fervour as the industrial worker often 'downs tools,' his care for and enjoyment of his tools reveals them almost as extensions of himself.

I shall reserve the word INDUSTRY for that whole complex of raw material, machinery, processes and product, within which the craftsman may or may not have a place. This will be discussed later.

One philosopher¹ has tried to distinguish the conception of 'art' from that of craft. He writes, "It is obvious that art cannot be any kind of craft. The craftsman's skill is his knowledge of

¹ R. G. Collingwood, in *The Principles of Art* (Clarendon Press).

the means necessary to a given end." This thought is useful in so far as it clears up a confusion, stating that art does not inhere in the *dexterity* of the artist, but it limits the craftsman to the execution of the work and—leaving on one side for the moment those craftsmen who design their own work entirely—it appears that the great bulk of the world's traditional craftsmen have felt free to make modifications, to evolve slightly different forms or patterns, so long as these served the practical purpose. It is true that the weight of custom and tradition have for long periods been very powerful, and sometimes only the slightest modifications were made over centuries. But the craftsmen—if they ever were made conscious of this—would probably have claimed that the best form had been evolved for this particular object, and would, very properly, have therefore asked why they should change it.

I believe that a word should not, without good reason, be wrested from a long history which gives it meaning and richness (as in this case "master-craftsman," "Craft Guilds," etc.), and so I link my use of the word to the traditions of craftsmanship and craftsmen.

So I use the word CRAFT in a different sense from Collingwood. I believe the craftsman *should* be concerned with the end, the product and its effect on the lives of others, not only with the "means necessary" to achieving it.

If we look at certain pre-dynastic Egyptian pottery, at Persian knotted rugs, at Coptic or Peruvian weaving, at modern Danish furniture, and some Swedish glass, we must admit that a work of craft can be an expression of the human spirit in material form, which gives as much refreshment of mind as do great works of art.

At their best all the things we use are at the same time, in some degree or other, both means and ends. The jug I first spoke of is a means to carrying milk, but it is also an end, a good thing in itself. So may be a chair, a spoon, a house.² The advo-

² Coomaraswamy would go much farther and say a picture was a means to an end, as an ikon is an aid to worship, and that therefore the true judge of the worth of a painting is the worshipper who finds it more or less helpful, not the professional critic. This, of course, only operates in a coherent society, where artist and patron have the same traditions and values, where they are like-minded and known to one another. "Every one," he says, "then is naturally a good judge at the same time of the serviceability and expressiveness of contemporary works. If this is not the case at the present day it is because the consumer and the artist are now two different kinds of man." From *The Arts and Crafts of India and Ceylon*, by A. K. Coomaraswamy (Peter Davies).

cates of functional streamlining of all objects and of the extremes of utilitarian architecture have confused the issue by arguing that because a thing is useful *therefore* it is beautiful. This is patently untrue. Out of several equally functional shapes one is more satisfying than others. They are arguing that because a thing is a good means, therefore it is a good end—a confusion of aspects. The danger is that with very complicated and expensive tools, that is intricate machines, attention will become concentrated on the means, and we shall be struck into wonder by the *skill* in the thing produced so that we do not look for its essential *vitality*. For vitality is the most universal characteristic of real craft, and the greatest danger of objects produced in enormous numbers through complicated processes by many people is that they are very apt to become moribund in the process.

The essential significance of works of craftsmanship to-day, for us as *users*, is that they are both a means and an end. They ought to be a good means (and therefore ought not to strain after any effect except doing the job they are made to do), but if they are made with gusto by a craftsman from living materials they will have vitality and be a thing of virtue, not just a useful one. Of course this is not confined to craft, but in craft it is preserved in its richest form.

If in the future everything mass-production gives us to use is so vital, so good, that it is an end as well as a means, then we, as *users*, can afford to let the craftsmen disappear. (Whether we still want to make things with our hands ourselves and experience this perfection at the point of complete conjunction of ends and means remains to be seen. It is an experience not to be lightly surrendered.) In use, such works of craft—a spun and woven tweed vibrant with subtle colour; a bubble of blown glass, the very essence of hollowness asking to be filled and held in the cupped hand; the whorl of a silver ear-ring bent to that springing curve by fractional pressure of tool in hand, playing a descant upon the shell-form of the human ear—give an experience of *wealth*, not obtainable from most of our surroundings and gear.

The objects that the great mass of industries provide may have started from somebody's sincere idea of a vital form, but they have been modified by mass-production methods, curtailed by financial economies, standardized by the needs of organization: they have lost most of the life which the original idea ever had.

They have lost the directness of a human answer to a human need. Their makers never regarded them as precious, worth giving their own life and energy to make so that other lives could draw energy from them. Compared with the work of a real culture, they feel dead, and indeed they are dead.

So the craftsman, who knows that vitality, stands firm even at the cost of poverty, of scorn, of the accusation of being out of touch with the developments of his age.

He knows that the innermost core of every one demands an immediate satisfaction, in the spoon no less than in the food, in the instrument as well as in the music. He is not waiting, as so many others are, till wars shall have been averted, revolutions made, or inventions perfected, before he begins to fashion the world nearer to the heart's desire. Each in his own very small way is doing it now. The craftsman is preserving a truth indispensable to the future of mankind.

In craftsmanship, in its fullest form, the craftsman creates the object from its inception to its finished shape, responsibly controlling the work at every point, holding the final purpose, the nature of the raw material, and the traditions of its use balanced, as it were, within the magnetic field of his own personality. The peculiar alchemy of this evades definition. We must not, however, limit craft to this individual personally completed work, because we cannot deny the term to the carpenter who makes a gate where the choice of shape is limited or dictated but the selection and the working of materials very important; nor to the wheelwright who makes only one part of the cart, and must relate size, strength, and so on, not to any personal canons, but to the whole planned by some one else or evolved through centuries of use; nor to the watchmaker who works to predetermined shapes, in specific metals, but with the same devoted consideration.

This attitude is found even in this old stonemason talking about his work :

We remove the top soil, dig the stone, and put the rubbish back. We have to find the 'bed,' where it will split, and then there is a callous in the rock, and it won't go farther. We have to think or we would give ourselves double the work. The thick stones [pointing to a heap stacked sideways] are for mortared walls, the thinner ones will do for dry stone walling—the more joints the better bond, the stronger the wall. These are for crazy paving; and those are for roofing slates. You have to make up

your mind as soon as you pick up a stone what you are going to do with it.³

I believe it is not by the limited scale of his tools, nor by the medium or methods of his work, nor by his having the whole job in his hands, but by his understanding of the needs his products serve, and by his attitude to his material, that we recognize the essential craftsman—an attitude involving humility, sensitiveness, and the intuitive sense of going with, rather than against, the grain of life.

It is for these reasons that I would prefer not to use the word for the skilled technician or mechanic who may do his job very responsibly but has neither interest in, nor responsibility for what happens to, his work when it leaves his bench.

It is very difficult to preserve such an attitude once one becomes involved in a very big concern, and passes on one's work to people who are not 'team-mates,' losing sight of one's own contribution in the complexity of the final product. But in, say, the aircraft industry I believe the pride in skilled workmanship and the close co-operation of a group delighting in the perfection of their finished product, *may* involve an attitude that we rightly call the craftsman's.

In Europe the dignity of humble craftsmanship was hardly articulated into a philosophy until that life had already been lost to the majority of people, when, preached by Ruskin and William Morris in industrial nineteenth-century England, it seemed tainted with romanticism. In spite of this we must not forget that these idealists had a very practical effect on industrial designing, especially on the Continent. Yet we can find a valid philosophy expressed by those sages and scholars of the East who had maintained that intimate contact with the simple craftsman which the West has largely lost. This outlook is now so unfamiliar to many of us in the West that perhaps we can best approach it through something both East and West admire. It is worth pondering that in this day and age the work which has probably won the most general acclaim over wide areas of the world as a pinnacle of art is the Sung pottery of China.

Dr Yanagi, of Japan, who has done so much to interpret the

³ Adapted from a dialect passage in *A Trinity of Craftsmen*, by F. Derrick (Chapman and Hall).

essential values of oriental craftsmanship to the occident, said :⁴

As everybody has noticed, not a piece of Sung ware bears the signature of its maker. Craftsmen of those days, who worked only to make articles for daily use, were probably very ignorant, uneducated people, who, moreover, were extremely poor, and had to sweat from morning to night. They were not of that privileged class who could work only when they were in a creative mood. In China, and in Korea in particular, potters belonged to the humblest layer of society. Yet, they could produce, without the least trace of difficulty, those articles of high beauty like the Korai celadon. None of these people were to be compared with the self-conscious, learned individualists of to-day, with all their aesthetic theories and scientific knowledge. Yet these humble craftsmen were able to produce works of consummate art which have become models for this refined posterity. How has this come about? These superb works of art were apparently produced with great ease. What is more surprising, it was not a few craftsmen out of many that could produce works of this kind. There were a great many who, every one of them, could produce equally good articles.

So an aspect of Sung wares remarkable to us is that they were not manifestations of the individuality of their makers. In them personality is submerged so that the article itself has come to the fore. Sung potters were working in a world where the question "Who made it?" did not count.⁵ In that world no effort is made to manifest individuals through the medium of things; on the contrary, it is aimed to produce things through the medium of man. The beauty there created is the beauty of objects, not that of man.

These potters forgot themselves while working. The beauty of their product was rooted in the submissive reliance on tradition. Tradition, as everybody knows, is not the work of individuals, but the accumulation of the experience and wisdom of long generations of our forefathers, an aggregate power which in all

⁴ All the quotations from Dr Yanagi are from speeches by him made at the International Conference of Potters and Weavers, Dartington Hall, 1952. This and other quotations from the report are made by courtesy of Peter Cox, the Secretary, who compiled it, and of the speakers. I have preserved in this and in other quotations, so far as possible, the rhythm and construction of spoken English in the mouth of one struggling to express himself in a tongue not his own.

⁵ In the same vein Ananda Coomaraswamy has written, in *The Arts and Crafts of India and Ceylon*, "There is no more remarkable illustration of the Hindu perception of the relative insignificance of the individual personality, than the fact that we scarcely know the name of a single painter or sculptor of the great periods; while it was a regular custom of authors to ascribe their work to better-known authors, in order to give a greater authority to the ideas they set forth. The absence of names in the history of Indian art is a great advantage to the historian of art; for he is forced to concentrate all his attention upon their work, and its relation to life and thought as a whole, while all temptation to anecdotal criticism is removed."

cases is above the individuals. When one abides by tradition the distinction between talented and untalented individuals all but disappears. Certain Buddhist doctrines tell definitely that while the way of the genius is the hard way it is also open to the ordinary, humble man to reach Buddhahood. The ship entering harbour with swelling sails is not propelled by its own strength but is yielding to a great power called the wind.

I have chosen to illustrate the craftsman's attitude from the musings of a Japanese scholar on Sung pottery, because I am a potter and I happen to have been fortunate in meeting this living philosophy in Japanese friends. But this sense of humility in "going with the grain," in losing oneself in something greater, shone out of the stanzas of the Bhagavad-Gita, long before Buddhism extended and universalized it. One can find this attitude illuminating the thought of India and her neighbours for centuries, and it was exemplified in the life of Mahatma Ghandi, in our own day. Here is a key passage from the Gita to shake us from our wage-consciousness and technological complacency.

"You have the right to work, but for the work's sake only. You have no right to the fruits of work. Desire for the fruits of work must never be your motive in working."

While the medieval craftsmen in Europe, trained in the strict discipline of the Guilds, were collaborating on cathedrals of unsurpassed beauty in humble unselfconsciousness, an attitude to work very like that of the Bhagavad-Gita was formulated by the German mystic, Meister Eckhart:

The just seeks nothing in his work; only thralls and hirelings ask anything for work, or work for any wage. If thou wouldest be informed with, transformed into, righteousness, have no ulterior purpose in thy work; form no idea in thee in time or in eternity, nor reward nor happiness, for truly all such works are dead.

Such an attitude is not so far from that of the pure research scientist to-day. The words, "no effort is made to manifest individuals through the medium of things; on the contrary, it is aimed to produce things through the medium of men," could well be said of the engineers who build our bridges, or the textile chemists who construct new synthetic fibres.

But between the teams of medieval craftsmen co-operating in a great public building and the teams of present-day scientists collaborating in pure research something happened which had an immeasurable effect on all that came after, on the present-day machine civilization, and on the *angst* of modern men.

That upsurge of vitality and experiment and of speculation about the laws of nature which we call the Renaissance held the seeds of our contemporary technological civilization as much as of our contemporary self-consciousness. For the artist and the craftsman it was an excited preoccupation with the physical world and an intoxicating excursion into new techniques and new styles. The unfreezing of stone forms in Nicola Pisano's pulpit at Pisa, the solidity and hint of warm life he breathes into his crowd round the Nativity, culminate in Michelangelo's fully realized and emotionally expressive David, proud, naked, unafraid. But, while tremendous advances in the working of materials were made, the technical daring of Donatello's bronze casting also culminates in the excesses of Cellini's gold salt-cellar. New and surprising uses of material were exploited, and nothing seemed impossible to a highly skilled and arrogant artist like Cellini, who aimed to impress by his virtuosity more than by an integral rightness of form. Whereas in the early Renaissance the starting-point of production had not been the creative urge, the subjective self-expression of the artists, but rather the task set by the customer, now spontaneous inspiration flowered, and, breaking through restraints imposed by patron or convention, the artist claimed autonomy.

Michelangelo had challenged accepted limits with his fortifications and the daring dome of St Peter's, and Leonardo da Vinci with his "flying-machine," both typical of the confident attack of Renaissance men on the physical problems of their world which foreshadowed the Industrial Revolution. But equally important as a foreshadowing of the modern world was the specialization which became necessary with the tremendous advance in techniques, so that no man was any longer able to be a painter, mosaicist, and architect like Giotto, or a painter, architect, sculptor, and poet like Michelangelo.

Whereas the earlier part of the Renaissance was still marked by a complete homogeneity between art and craft, a separation is soon apparent.

Encyclopædic learning and practical versatility are in fact medieval ideals; the Quattrocento takes them over along with the tradition of craftsmanship and abandons them to the same extent as it abandons the spirit of craftsmanship. The principle of the division of labour and specialization is triumphant and gradually attains supreme power even in the field of art.⁶

⁶ *The Social History of Art*, by A. Hauser, Vol. I, Chapter V (Routledge).

This specialization, which had been an endeavour to win greater mastery in one field, necessarily increased with the Industrial Revolution as many new techniques were developed. But the vigorous self-conscious inventiveness of the originators was paid for in the passive, narrow specialization of the operators of the new machines.

Let me state categorically that the machine in itself is neither good nor bad. In wise hands machines can create the material conditions in which life could be immeasurably better than we have yet known.

Some men in each generation have always looked beyond material things. It is noteworthy that many of the great saviours of mankind have embraced a degree of poverty, and that many modern idealists reject their comfortable homes and risk their lives battling with the elements, on mountain peaks, Arctic wastes, or in small boats, as the saints used to seek the desert. But there is a degree of destitution which is destructive of all but the strongest human spirits. It is the voluntary, not the imposed, poverty which can purify the spirit.

But in the process of making possible this better life the machine civilization which has emerged has often degraded men to be mere cogs, and given them less consideration than the machines they mind. It still forces them to live in huge, dirty insensate cities cut off from the clean air and sight of nature without which the spirit wilts; it sucks from them the human dignity of enjoying and taking a pride in work for which they are responsible, and has forced them to serve the machine rather than the machine them.

Craftsmen, who know by experience the exhilaration of enjoying work, see the sub-human degradation of the machine-minder, and the diminution of personal responsibility in operating a machine which does only an insignificant part of a process. With their respect for and intimate knowledge of a material they can see the disregard for essential qualities in senseless ornament and in the imitation of one material by another. If some of them feel they can only live their convictions and be responsible for their own work by getting right away from the machine we must respect their integrity. On the other hand, perhaps we have a right to expect out of their struggle with the material a *distinguished* contribution which will illuminate for us the world. This demands their complete commitment.

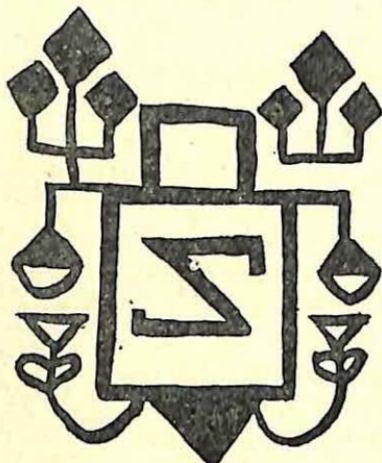
That same Japanese scholar whose words were quoted earlier,

said, "When you are doing your work you and work are two different things. When you become the work itself and do the work, or, in other words, the work itself is doing the whole work, true work becomes possible."

Most sincere craftsmen would admit that they reach this state only at moments, but that therein lies their deepest, most profound satisfaction.

I have stated my belief that *it is by his attitude to his materials, to his tools, and in his understanding of the needs his products serve that we recognize the essential craftsman.*

Yet it is only when the craftsman is in touch with some source of life, drawing on the deep well of age-old tradition as does the peasant craftsman, or surging forward on a contemporary wave like the Renaissance craftsman, or when he is one of the blessed few modern men who bear within themselves their own perennial spring, that craftsmanship in its full sense can flower.



Every year when the rains finish the Ndebele women repaint on their houses, with earth colours, the traditional pattern which belongs to their family. Here is one such pattern, less than twenty miles from the sprawling industrial city of Johannesburg, South Africa.

Craftsmanship in the World To-day

MANY COUNTRIES OF THE WORLD TO-DAY ARE LIVING IN A technological civilization, and many others look forward to such an age as an undisputed advance. But we who lived through the aftermath of the optimistic nineteenth-century belief in inevitable progress know that the advance of technology may be inevitable, but whether it is truly progress is dependent on men's handling of their own society. For a technological age holds within itself—quite apart from any consideration of H-bombs or war—the seeds of self-destruction as surely as of self-advancement.

Whereas the education of younger children now attempts to nurture every side of the personality—imagination and intuition, as well as the body and the intellect—the training of technologists, scientists, and engineers tends to isolate the capacity for intellectual thought and concentrate on *that*; so the capacity for intuitive thought, which is as essential to experts in those fields as it is to the artist, to the politician, and to every mother, tends to be atrophied in the process. Thus when an expert, after a gruelling academic training and years of intellectual work, emerges at the top of his profession or on the frontiers of present knowledge, he often lacks the very quality he then most needs. This will be discussed more fully later.

On the other hand, the increased complexity and perfected automation of the machines and processes produced by the specialists reduces the operatives, in very many cases, to something very like automatons themselves. They are asked *not* to operate fully as human beings during their hours of work, but to act with only a small part of themselves, often a small finger movement. Only to a trivial degree are they asked to exercise judgment, and always geared to the clockwork tempo of the machine. The skills, the responsibility for making judgments, the satisfaction of seeing something produced or something growing, which are a part of even the simplest jobs in an agri-

cultural, a fishing, or a craft-centred community, are not theirs. Some men are become all brain, and some all hand; neither are whole men.

Not only the operative in the factory but the lowly employee of a gigantic concern becomes almost an extension of the machine he uses, a cog between two processes. However good the physical conditions of such work are, it is natural that the consequent feeling of frustration should result in either a passive acceptance of the situation, an apathy, or in a panic revolt which does not know where to hit out. Intelligent directed rebellion is a healthy reaction to any unhealthy state, but this mute, explosive rebellion results in the destructiveness discussed in Lewis Mumford's¹ analysis of industrial civilizations.

The other tendency of a technological civilization which holds the potential seeds of its own destruction, is its standardization. Grouping into larger units, turning out more of the same thing from a smaller number of machines, leads to economic efficiency to a certain extent. But a point is reached where standardization approaches stagnation. Any complex organism is potentially rich just in proportion as its parts are varied. This can be seen in a series of numbers, in the patterns assumed in the molecular structure of matter, in the growth of a living organism, or in the structure of societies. The more rich and varied the individual parts, the more possibilities of development are open to them. If instead there are large numbers of identical units of only a few types, the possibilities of arrangement and interaction are very limited. Just at the point where material wealth and new advances in technology make the discovery of new forms and the search for better alternatives possible on a large scale, a premium is placed on standardization. *Human beings conform to what is easier for the machine: individual choice narrows.*

An advanced technology has forced industries and commercial undertakings to group themselves in ever larger units, and incidentally in ever larger cities. Organizations, whether industrial or political, lose all sense of human scale, the individual personality is submerged. Almost inevitably the human beings within them feel their smallness, their ineffectiveness, the impossibility of an individual decision or action affecting the whole. So they feel defeated by the size and the indirectness and impersonal nature of the channels by which they can make their contribution, and after wasting enormous energy in frus-

¹ *The Culture of Cities* (Secker), *Technics and Civilization* (Routledge).

trating attempts to 'do something about it,' are apt to retreat into irresponsibility. In any case, the difficulty of getting direct and verifiable information is insuperable, and the problems too big and too complex to solve. So one does nothing.

This impasse must be faced by education as a whole, and can only be surmounted by seeing happier human beings, and not an impersonal abstraction 'society,' as the true end of progress. Can the practice of a craft make any special contribution to the education of young people, in helping them to build up a personality to resist the dangers and yet use the forces within a technological civilization? I believe it can.

The first danger suggested was the *isolation* of the specialist from other specialists and from the common aspirations which bind a society together. Surely it is essential to have a shared basis of common experience in adolescence, at the time when specialized studies in science, engineering, or economics attract future men and women into their own fields. The experience of making music or of dancing together cuts right across the isolation of the specialist, reminds him of ways of communicating other than his esoteric technicalities. In the same way, although the experience of making may be individual, making pots or sculpture or cloth in a group of like-minded people and sharing the products in one's home with personal friends, are basic human experiences which emphasise that which binds rather than that which separates us, encouraging an appreciation of many kinds and conditions of men.

To counteract the *frustration* of feeling only a cog in the machine we may ask what are the activities which give the individual the greatest control over the thing under his hands? The practice of a craft where, having chosen his appropriate material, a man accepts the responsibility for every decision, and where only he controls the making at every point, and in which the final product is completely his own solution to a problem, is the fullest experience of responsibility with materials. But the problems must be graded to stages of development and to individual potentialities. If they are too easy he is not stretched to his full extent, if they are too difficult he retreats into irresponsibility either in giving up the job or by falling back on instructions. Herein lies the crux of teaching craft in adolescence. The material itself and the growing standards of craftsmanship which gradually develop, the ambition to better one's own work rather than beat one's fellows in competition, *does*

lay just that type of increasing demand on the student. And since it is the impersonal discipline of that material which he has chosen, not the absolute demand of an examination or the personal demand of an adult in authority, this discipline can be readily accepted by most adolescents.

A sound craft training in any material is likely to result in the satisfaction of feeling fully an individual, in a sphere where individualism can hurt no one else, and where it is tempered by the restraint and humility which the continued practice of a craft bring. If the maker does go through a stage of exuberance and over-individuality the results stand there as actual things in the maker's environment; he has to take responsibility for them, he cannot escape it, except by going farther and doing better. Armed with the complete certainty which comes from a deep experience of this nature, that they as individuals are not cogs but creative beings who can mould to some extent their material world, people are less likely to wilt into passive acceptance, and more likely to know where they can direct their criticism and state their refusal to accept the lifeless or the shoddy.

The experience of having sought after perfection, without thought of praise or gain, but only to make something as well as it can be made, is to be freed for an eternal moment from the tyrannies of outer events and inner pressures. If we can remain true to this disinterested ideal even when the moment has passed it gives an inner touchstone by which to test the quality of experience and to give us standards of judgment in a confused and uncertain age.

I have been speaking of the personal satisfaction of those who practise a craft, but apart from that we must ask whether society would suffer if the values of craftsmanship—which can only be embodied in the craftsman—were to disappear? If we did arrive at a state where all our objects of common use were made by machine we should still need a number of designer-craftsmen to make the originals from which the multitude are made. This involves only a small number, it is true, but they will be key people. How are we going to find them, who is going to select them, if the practice and values of craftsmanship have disappeared from our society? They will be very powerful people because the more mass-production is adopted the relatively smaller number of models we shall have to choose from when we buy, and if we do not like what we are offered it will

be an expensive undertaking in most industries to change the prototype. We are at the mercy of a few designers.

On the other hand, there is a possibility inherent in automation which, as yet, has hardly been explored by our industrialists. Once basic shapes have been completed (perhaps in time even these will be amenable to a press-button) the surface finish, colour, and additions can be geared to automatic controls. (Already we have the electric colour-mixer which will mix paint colours from a wide range in any chosen proportion.) So when all the machinery has been set up the customer himself might go and, by pressing switches, select his choice and combination of colours, textures, and spacing of the surface pattern (say, in china or textiles), and so have some small part in the final product. This certainly opens up dangerous possibilities, and it will demand a far higher level of design awareness and appreciation in the ordinary buyer. But without this sense of responsibility the marvel of automation can only make him feel more helpless than ever.

Until we invent some method of measuring far more accurately than at present the potentialities of human beings, it remains true to say that in order to produce any peak of highly trained creative minds we have to have a pyramid of the less specialized. Thus, a great many children must be working with materials, with shapes and colours and textures and the tools of the trade, if a few are to prove themselves worth training for the jobs of highest responsibility. The question of their further training will be discussed later. But the point I wish to make here is that even if we did not permit craft to have a place in education for any other reason, there is this purely self-protective reason for doing so. There are some things which can be developed later in life and some which cannot. A sensitive awareness to shape and colour and texture must be developed during the younger years when the senses are most acute.

But are mass-production methods indeed applicable to all goods? There will surely always be a number of things, scientific instruments, games and sporting-equipment, furniture of some unusual shape wanted by a small number of people or only by one person in a region, but wanted sufficiently to merit a craftsman's making them. It may also be questioned whether a machine will ever be invented to make the best musical instruments, since the human hand and the human skin still give the most sensitive response known for certain purposes. Moreover, a

craft "which has altogether fallen into disuse for a generation is altogether lost. There are hundreds of examples of this to which the period of mechanization is daily adding new ones. These losses are irretrievable. It is pathetic to watch the endless efforts—equipped with microscopy and chemistry, with mathematics and electronics—to reproduce a single violin of the kind which Stradivarius turned out as a matter of routine 200 years ago."¹

But is this period to be seen only as an intermediate period out of which we ought to emerge to large-scale production of every possible item? Certainly mass-production will spread and can bring to many more people the benefits of well-produced goods. But it is an extraordinary fact that a multitude of mass-produced goods has not satisfied. A home is more than the fabric of the house, however efficient. As soon as the bare clean surfaces and simple lines of machine production were common in our homes, people began to feel they wanted something more personal, more individual. Most of us who have handled materials ourselves or loved the elegant craftsmanship of the past wish for something made by an individual craftsman, embodying his values. We want a pot or a rug that speaks to us, much as we want a picture. And we have found that well-made things, whether made by a machine or by hand, will stand well together, as we have found that the best work of many—I do not say *all*—periods of our history can live together.

Even those who do not want or do not know they want such works of art by an individual craftsman express a longing for a cupboard or a cushion or something they visualize as just right to fill a certain corner.

Many people, brought up with a purely academic education, have come to try a craft because they could not find, or could not afford to pay for, what they wanted, and have gained a brief glimpse of the satisfaction it offers.

And, surprisingly enough, the more mass-produced household fittings there are, the more men seem to want to do jobs in their own homes, and the more tool kits and units ready for assembly are in demand. Britain, and even more America, has been swept by a do-it-yourself wave in the last few years.

This satisfaction in making, even when it is not directly inspired by a need for the thing made, this satisfaction in the very act of making has also been discovered afresh in our age.

¹ M. Polanyi, in *Personal Knowledge* (Routledge).

The poet, T. S. Eliot, gives his successful businessman a longing for the pottery he used to make.² He speaks of ceramics thus:

For me they are life itself. To be among such things,
If it is an escape, is to escape into living,
Escape from a sordid world to a pure one. . . .
I want a world where the form is the reality . . .

It is infinitely easier for the professional or the amateur craftsman to work within the sustaining virtues and values of a great tradition. But in the West and wherever industrial production has developed very rapidly, these traditions have died out. Is this unavoidable in the nature of change? Or is it that since the values of craftsmanship were not realized, no definite effort has been made to sift and preserve them? While I was looking at hundreds of beautiful patterns made by Egyptian children, every one vital, vivid, coherent, I asked my Egyptian friends, "Does every Egyptian child instinctively have this wonderful sense of pattern?" They answered, "Yes, in the villages. But when the parents move to the towns the older children keep it as you see, but the next generation of children have lost it." I have long pondered on this answer of theirs. Is it that in the villages the children are surrounded with handmade objects—few, perhaps, but having a traditional beauty—and when they come to the towns their eyes are dazzled by quantities of inferior machine-made objects, so they lose their standards and become confused? Or is it because the life of a village is coherent, has a pattern of life in which the child grows unconsciously, that their abstract patterns reveal this strong certainty of wholeness? Perhaps both.

The disintegration of a society is visible in the disintegration of its arts, and the present state of crafts in highly industrialized countries, the uncertainties and extremes and over-individualism, are all reflections of our age.

In an age which has almost lost its craft traditions a much greater responsibility is put on the individual craftsman, to draw strength from the past and yet be alive to the needs of the present. Men and women to-day who devote their lives to any aspect of art or craft must resolve their relationship to the past. They may race ahead, excited by the intricacies of contemporary structural developments, as architects or engineers, or move in a steady flow between the past and the present as workers or advisers in rural industries, or accept the slower pace of practi-

² In *The Confidential Clerk* (Faber and Faber).

cal rediscovery which is the way children learn, or even turn their gaze backward as art historians, who also are needed if they will interpret our past to us. We need all of them, and contempt of one for the other will not help towards that integration within one coherent world for which we search.

Where does the individual craftsman fit into this? Bernard Leach has said :

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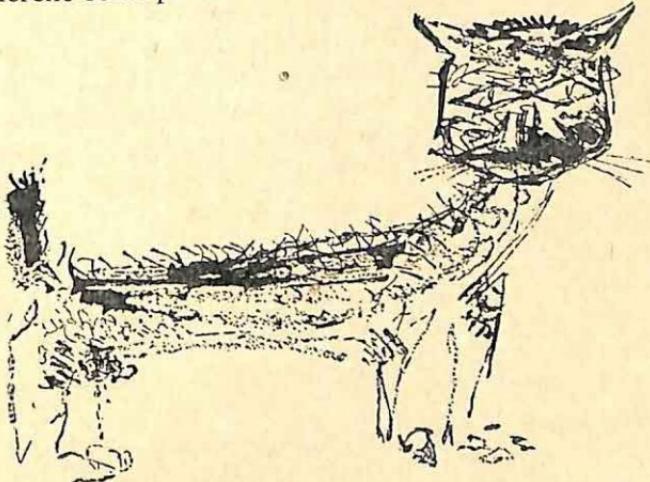
Our common answer or our common need is the capacity to stretch oneself to the world orbit—to become citizens of the human race rather than merely citizens of one culture. No solution of the individual problem seems possible unless we get a total solution.

I believe there still will be a place both for the full-time individual artist and the individual craftsman. "Once tradition has died out, it is necessary for individual artists to work in place of tradition. Their purpose, however, must not be to work for themselves but to prepare the way for a new tradition."

The artists and craftsmen who have been sensitive to the qualities of work quite different from their own, European artists who appreciated Japanese woodcuts in the last quarter of the nineteenth century, African carving at the beginning of this century, or the modified Byzantine tradition which lived on into our own day in Abyssinia, or the pottery of Pueblo Indians and the weaving of the Navajo Indians which have been an inspiration to present-day craftsmen, all help in this cross-fertilization of cultures. But, above all, let us not look forward to one ubiquitous homogeneous world-culture—what could be more boring and sterile?—but to regional cultures, enriched by contact with one another, but rooted in the soil, the materials, the way of life of that region.

I have stressed the dangers of self-consciousness and of the desire for individual self-expression, both of which became more marked during and after the Renaissance. Nevertheless, I do not agree with those who state roundly that the time for individual and personal art is past, and that we are now in the age of automation, when the artist must sink his personality in machine production. It is true that in industry closer teamwork from a group of like-minded specialists will result in better products, and this will increasingly be the pattern for architecture and domestic utilities, as it is of ship-building and aeroplane manufacture. It is true that we need designers who have been willing

to forgo the refinement of extreme individualism to study at length the scientific and industrial aspects of their job. It is true that in the objects we use at every meal, in most of the furniture which is the background of our lives, we do not want a fanfare of self-expression even from individuals of refined sensibility. Many of us prefer a measure of restraint, with the material and purpose to the fore, rather than the designer's personality. Neither do we want only objects of a cold, mechanical utility. It is possible for the craftsman to design with restraint and yet preserve that human warmth. On the other hand, the book we select to suit our mood, the picture we pore over from time to time, the sculpture which demands our whole attention (at intervals, for we could not honestly give it all the time), these can be extreme statements. Although I believe it is healthy for both if we keep the conceptions of art and craft in close association, there is a difference of emphasis here. So the industrial designers are not *the* artists of to-day, but one type of artist. We need better designers desperately, but we also need skilled and sensitive artist-poets in many materials. We have all had our sympathies extended and our humanity deepened by sharing works of art based on the personal experience of a sensitive individual. We have been enabled to assimilate and accept experience—re-living it in a different way—through the formed and coherent conception of the artist.



A child in the Werkschuit (see page 63) has come to new terms with one element of his environment, his cat, by defining his image of it.

Interlude

The Tea-ceremony of Japan

THERE ARE MANY INSTANCES OF CRAFTSMANSHIP DEVELOPING to high standards of perfection when dedicated to the service of religion or under the patronage and security of a cultured court. In contrast to the great religious ceremonies and martial and court pageantry which challenged the craftsman to new wonders, the Japanese tea-ceremony took shape as a ceremony of domestic life. The ceremony consists of serving tea to a guest. The tea-house is often a wooden construction in a garden, made of the simplest materials, but each chosen with extreme care and refined taste. This is usually reached by stepping-stones, and the garden may contain a basin of water where the guest rinses his hands. The room contains an alcove, with a picture and flowers arranged according to the strict, almost religious, rules of Japanese flower arrangement. The space and plain areas used in Japanese decoration enhance the significance of these. The utensils, the bamboo scoop for water, the ivory spoon for the tea, and the tea-bowls are of common materials but works of craftsmanship. The host boils the water in a charcoal stove sunk in the floor, and the ritual of preparation, involving certain accepted gestures, allows host and guest time to come to a contemplative mood. The guest, as he slowly sips his tea, opens his mind to the influence of the objects in use.

Because it appears to have played such a part in fostering and sustaining standards of value in simple household things, and linking these values to a philosophy of life in a unique way, I give here a description by a Japanese of its significance in national life (page 15).

"Tea-ceremony is a cult which, introduced by Buddhist priests about the 12th century, has been developed in Japan. It does not consist simply in drinking tea, but embodies our aspiration to fathom the depths of beauty. The choice of the utensils, the successive steps and etiquette of drinking, the structure and

decoration of the room, the pictures, the flower arrangements, the layout of the gardens—these and other visible forms are the media for the pursuit of beauty. The objective is not mere appreciation, but *experiencing* the beauty in the midst of our daily life. Therefore not only seeing, but the *act of using*, constitutes the integral part and most characteristic feature of the cult. It tries to see beauty in the motion of things in its dynamic instead of static aspect. Now, the cult has had a history of many centuries, all the while giving refinement to the mind and senses of the nation, so that the influence it has exerted on the aesthetic eyes and aesthetic views of the nation is truly immeasurable.

"In the first place tea-cult aroused in the mind of its followers a strong interest in the utensils. It enlightened them not only in the appreciation and choice of the utensils actually used in drinking tea, but improved their attitude towards practical art objects in general in the choosing, framing, and placing of a picture in the 'alcove'—the focus of the room—and its flower arrangement and choice of tray. It is noteworthy that these utensils that were used in the ceremony, although they were articles used for daily use, came to command the same respect and affection as painting and sculpture did. One of the contributions made by tea-ceremony is that it taught men to look on and handle practical utensils more thoughtfully and inspired them with a deeper interest and greater respect to them. For example, it helped to spread the liking of the nation for earthenware to such a degree that it would be hard for foreigners to imagine. In Japan the love of pottery is almost ubiquitous and there are naturally a great many pottery collectors.

"The second point is that tea-ceremony taught every one of the Japanese nation the criterion for recognizing the beauty of the highest quality, and that not idealistically but through such concrete features as form, colour, and design. Many words were invented to qualify the beauty that was to be the criterion. Prominent among these is the adjective *shibui*, to which there is no exact counterpart in English. Those nearest in sense may be *austere*, *subdued*, and *restrained*. The qualities of the work, when analysed, will be quietness, depth, simplicity, and chasteness. It is an inward-turning type of beauty, suggestive of the lustre lying on the inside. Some of its meaning will be grasped when contrasted with its antonyms *showy*, *gaudy*, *vainglorious*, and *vulgar*.

"For example, the colour that shows *shibusa* best is a plain

monochrome of some tranquil and unobtrusive kind. Black, brown, and soft white are the best-liked colours. Of shapes, simple and peaceful ones are preferred. If there is design, it ought to consist of only a few strokes of the brush. Reticence is always an essential factor of *shibusa*. This, however, should not be merely negative; it ought to contain an infinite affirmation in it. It ought to show motion in stability, and stability in motion. It may be said that herein the spirit of Buddhism finds an expression. The reticence is sometimes referred to as silence like thunder.' Probably we find a parallelism to this idea in the 'Eloquent silence,' spoken of by Christian theologians of the Middle Ages.

"There are many kinds of tea-bowls, but those selected by early tea-masters are treasured above everything else. It is interesting to note that almost all of the selected vessels were folk-craft articles. They were the cheapest goods, naturally with little or no decoration, to say nothing of signatures; they were in monochrome, simple in every respect, and were all of them miscellaneous utensils in daily use. None of them had been made originally as special tea-bowls. Curious as it may seem, not a single piece made originally specifically for admiration was selected as tea-bowl. It is only in more modern times that tea-bowls with the makers' signatures came to be made primarily for the purpose of connoisseurship, and then these later artists' work could not surpass in beauty the unsigned works of the earlier days.

"How are we to understand that tea-masters found deep and sublime beauty in folk-craft articles and miscellaneous utensils meant for daily use? I presume that this was because the masters saw in the beauty of those articles what may be termed the 'virtue of poverty.' The notion of 'poverty' had a deep moral content in all religions. It was best represented in Christianity by the teachings of St Francis of Assisi, who preached on the virtue of 'Holy Poverty,' and placed his Mendicant Order on this spiritual basis. Poverty, spoken of by religion, of course, does not refer only to being hard up for money. As the statement, 'Blessed are the poor in spirit' shows, it means humility of mind, and forsaking worldly desires. Yet this is by no means a mere negative mode of living.

"Beauty is deeper when it is suggestive of something—when it has in it an infinite potentiality—than when it is self-explanatory. When our taste arrives at maturity we come to like plain

monochromes and tranquil objects. Some people may regard this as the taste of old age. Certainly, being a deep type of beauty, it would be hard for young people to understand.

"All works of art, it may be said, are more beautiful when they are suggestive of something beyond themselves, than when they just end by being what they are. It was for that reason that articles that were too complete were not used as tea-bowls. Such articles, having exhibited all that they have and having nothing to suggest further, give one the impression of rigidness and coldness. By far the greatest number of tea-bowls are pottery, and those of porcelain are very rare, because articles of porcelain are usually too complete to be rich in after-taste."

"Beauty hates to be enthralled by perfection. That which is profound never lends itself to logical explanation. It entails endless mystery."

國の往事をもつて見るに
之を深めの美
人柱の國境ひすい
昭葉に達天よし人
私が

美猪

PART TWO

I

Education : Young Children working with Materials

THE EDUCATION OF EVERY CHILD MUST HELP HIM TO UNDERSTAND and come to terms with two main factors in his environment—persons and things. These two relationships interweave and influence each other, but craft education is chiefly concerned with the relationship to things.

The baby is born helpless into an environment which is already made. Not only the incalculable world of nature is apparently complete, but his home is full of things made or bought by his parents. He begins to discover the differences in things that surround him and how these qualities impinge on him. He tries everything to see if it is good to eat, and learns about hardness and sharpness and fluffiness and stickiness with sensitive little lips and gums.

All the varied, astonishing objects he meets are strange. Each of them has its own permanent character, and he begins to learn that to-morrow the blanket will still be fluffy, the ground will still be solid unless the rain falls, which damps the blanket and makes the dry ground mud. So the permanent character of things can be modified by outside forces. He is soon introduced to fire, a wonderful terrible power that eats up and destroys, which burns with a stinging pain, but which makes cold water 'hot,' and cooks food whose appetizing smell draws him.

This environment is immense, and very puzzling, and very powerful. He could never find his way unharmed about this huge terrifying world unless he were guided and protected by those who have learned to keep a little bit of it under control and use it for their own ends. His parents have cleared a little space of the inexplicable environment, and given order and coherence to a number of things within a home. So, he scrambles and clammers his uncertain way through this parental world. Till, one day, in the middle of pushing things around to feel the pleasure of stretching and grasping, he notices that he has put one thing on top of another, one stone on a bigger stone, or one

stick on a mat. Did it just happen accidentally, or, he surely asks himself, "Have I done this indeed?" Carefully he removes it, and puts it back again. "Me, I can put it there! I can do it."

If the sun stood still in his tracks or the trees bent to peer it could hardly escape our attention. But this historic moment is quite likely to pass unnoticed, even though something stupendous has happened. A child has discovered he can translate his thought into an action which alters by one fraction this physical world. It is no matter if he tries again and fails, if he laughs and knocks it down, or if he turns away tired to something else. Something has happened this moment which may end in a city, or a bridge, or only a new shelf in the kitchen. But he has discovered that he can change, in some way, the world in which he lives. He is not utterly powerless among the material and permanent things of life.

For a time he may concentrate on this new activity with great satisfaction. Spasmodically, from now on, in contrast to random play, his *intention* determines what is being done. He builds towers with increasing numbers of blocks, and knocks them over with great enjoyment. His feeling of power grows with each achievement. We can early distinguish some difference between those whose forceful tendencies incline them to build upward and those whose retiring nature leads them to build enclosures with protecting walls. Soon all sorts of structures are tackled—houses, bridges, castles, and other complex constructions.

Having discovered he can construct through relating the position of things to one another, it is not long before he tumbles on the even more pregnant fact that he can alter the shape of them; that he can break sticks and knock corners of blocks, but above all that if he pushes his fingers in the half-dried mud a hole remains. He has literally made his mark. From random pushings and proddings he comes to find some shapes more satisfying, more truly expressive of his feelings, than others. The shape made by an angry push is different from the shape made by an affectionate stroking. He is on the verge of sculpture. He can make the physical world embody not only his thought but his feelings. He is potentially not only an engineer and a builder, but an architect and an artist.

I believe it is only through the wonder of realizing what an astonishing thing this first conquest of the material world is that we can bring home to ourselves our potential power to *shape this world.*

The first remarkable discovery that he can mould soft materials may in itself give sufficient satisfaction for quite a time, first in sheer sensuous pleasure, later also in the expression of emotions and ideas. The next step is the discovery of tools. Probably the first tool is usually a piece of *material* with which he is playing. Even animals use what lies to hand in this way. But the achievement of man is that he thinks ahead and envisages situations which may need special tools. Thus the possibility of expressing ideas and feelings is enormously widened. It can truly be said of these early years that the child *thinks in materials*.

We say that we express ourselves in material, and in this expression we expand beyond, we transcend our limits, and leave a more or less permanent impression of ourselves in the material. In this are related three experiences which a famous child psychologist, Charlotte Bühler,¹ says are characteristic of mankind. "When he is active with material man surrenders to it, masters it, and puts something new into the world." "Without such surrender and the capacity to make such a surrender," she writes, "normal emotional and character growth cannot take place. Children deprived of adequate opportunities of constructive play, are children who later grow up deficient in constructive imagination, and are inhibited in experience."

So it is obvious how immeasurably important are the child's first essays at this constructive play, how essential that he should receive encouragement and appreciation, instead of constant calls to come away from the mud, or to stop playing about with those stones. And it must again be emphasized that no elaborate materials are needed for this. The full richness of the natural environment, the sand, the sticks, the rope and string, leather, and scraps of cloth which lie around any house serve most of his uses. The mother who, when she is baking, will always give her little child a bit of dough to shape and cook is doing more for him than she guesses. Children learn an incalculable amount by watching adults work, and the invitation to "help" can entice them into new experiences.

The importance of play for the young child has been stressed by Pestalozzi and Froebel and has been explored more fully recently by Susan Isaacs, Piaget, Melanie Klein, and others. Play is the very life of childhood through which he explores and digests his experiences with the physical world, with his family

¹ From *Birth to Maturity*, by Charlotte Bühler, Chapter 7 (Routledge).

and friends, and with his own inner phantasies. Through play his emotions are given *form*, and therefore the possibility of being acknowledged and accepted, and through it the imagination is developed and controlled.²

Therefore the types of play which we encourage, and the provision which is made for it, are of paramount importance. First, expensive and elaborate toys stunt rather than encourage imaginative play. A wise educationalist³ said that a child should never be given a toy which he could make for himself. A toy completed and finished down to the last screw or splash of paint leaves a child little on which to exercise his imagination; far better an object without clearly defined character, found or constructed by the child himself, which stimulates logical thought or provides a habitation for an image which is pressing for outlet within his mind, one which can be carved or painted or dressed up in clothes as his mood changes. In addition, such a toy can be handled roughly without constant prohibitions, and can even be bashed in anger to relieve as yet undisciplined feelings. Better it than some costly thing, whose destruction might cause the parents resentment and the child guilt. The child will at the same time be learning to handle household objects with control and care as part of his upbringing. Just because of this need of respect for the cherished goods of others, he must be given things of his own for play. He also needs uninterrupted hours, to explore his phantasies thoroughly.

How shall we translate these conclusions about children's play into terms of what we should provide for them and encourage them to do in their first schooldays? Again I would plead, not for elaborate buildings or equipment, but for a simple, healthy, and varied environment for young children. Froebel first introduced the idea of a Kindergarten, and, indeed, the idea of a garden—that is, a place full of a variety of natural things but protected from the hazards of wild nature and the intensity of the adult struggle—is just what we would wish for young children. All young children should have:

(1) Variety in their physical environment; earth in some form that can be shaped or built with, sand or gravel, or small rocks or bricks; and they should have water, a stream or pool with which to play, and by which to make mud-patties or sand-pies.

² This aspect is developed more fully in *Creative Crafts in Education*, by Seonaid Robertson (Routledge).

³ John Dewey, in *Art as Experience* (Minton Balch, New York).

(2) They should have animals to care for; growing plants to watch, and seeds that they can sow and study through the seasons.

(3) They should have a plastic material (flour-paste or other substitute if clay is not available) and later a material which can be carved—soft stone, or wood, or even unfired brick; they should have tools to draw—e.g., pencil, charcoal, crayon, chalk, and to scratch on soft stone, chalk, leather-hard clay, or wood; they should have colours for painting⁴ and colours for dyeing, which may be from the plants of the neighbourhood.

(4) As well as the greatest variety of natural materials which can be mustered—barks, seeds, dried palm-leaves, cones, pebbles, shells, crystals—children should also have oddments and broken scraps of the manufactured materials of their civilization to play with. In this way they get to know the qualities of these materials, and in making constructions from them they are led into some aspects of the adult world.

(5) In addition to those materials which lead on directly to craft children should also have materials for building, toys which help them towards counting and reading, playthings which encourage varied bodily exercise, and access to some sort of dressing-up properties, even discarded adult clothes or lengths of cloth from which to contrive their own costumes.

In the cities these conditions are not easy to provide but they are possible. The 'junk playgrounds' of Holland, Denmark, and London provide much of what is lacking in the streets (the only former playground of such children). I could cite mining-towns of industrial England where even a small garden built by the children (perhaps with the fathers giving a hand with heavy work in the evenings), sown with flowers, and populated soon with insects and earth-worms, has offered a humble but absorbing study through the year, and provided a theme which gave arithmetic, writing, reading, nature-study, and painting a coherence and excitement even with the most backward of children.

⁴ "Colours for painting" does not necessarily mean the manufactured goods which are not within the reach of most of the child population of the world. Paints can be made from coloured earths, by sieving them finely and mixing with a paste of flour of roots, grain, or potato. Or colours can be obtained as juices or inks from many plants and fruits, or pressed direct into paper or slivers of dried bark, from the fruit or leaf held in the hand. Such drawing cannot have a clear definition, but this may be given by black ink, which can be made from lamp-black and oil, and used in a sharpened bamboo or quill. Much more needs to be done in exploring regional materials.

But those who are fortunate enough to have space and natural environment round them should see that the children are out of doors as much as is practicable. A school should not be walled in from the world, but there should be a constant traffic. With the young ones it will be to their own garden or yard, discovering things, making things, bringing them back to discuss and learn about, with an occasional excursion farther afield. In the middle years of childhood too they should have a yard or garden where they can begin to shape their own environment as they wish, introducing plants or animals, making houses for the creatures or garden furniture. They also need to be looking at machines, finding their way about the neighbourhood, learning to cook and take care of themselves on treks, coming back to learn from books and records more about what they have seen in the world which will be theirs one day. It is interesting to reflect that the more industrialized a community becomes, the more it has to provide for its growing children experiences which are the commonplace of so-called 'primitive' peoples—camping, canoeing, learning to sleep out and provide food with few utensils, to make and keep a fire. Many aspects of Scouting are now included in general school education in Europe, and some American parents with every comfort laid on in their sumptuous apartments pay for the privilege of sending their children to 'rough it' in summer camps. There is no practical need to make fires or sleep out or make equipment from raw materials in an industrialized society, so there must be some other deeply embedded need which is not dying out in Western civilizations.

Out of the countless activities which might be practised, the teacher has the responsibility of making some choice for the child,⁵ in providing materials and encouraging some activities rather than others.

But young children do, in fact, spontaneously use anything which lies to hand to give shape to ideas and feelings. Before language has adequately developed to express these, every child has an unerring language of the hand, and can express and convey quite complex ideas and emotions in pictures, modelling, and 'scrap material constructions.'

One of the most important discoveries which has governed recent education is the creative ability of all children. It is now believed that every child can produce work in the arts which

⁵ Purely for convenience, the pronoun 'she' will be used for the teacher and 'he' for the child, except where the situation is associated particularly with one sex.

for him is new, superior, or unique, when compared with previous performances. Creativeness is, therefore, no longer considered a special ability reserved for a gifted minority, every child has it, and must learn to use it, or the powerful impulse to do something with the physical world around will emerge as an urge to deface or destroy it.

Our methods in art and craft must allow for this creativeness which is so abundantly evident in children. To allow the child to express himself more significantly and to appreciate his surroundings more fully, and also to enable him to realize that cross-relations exist among all important human activities, we encourage the child to draw, to paint, to model his own experiences. Unhurried time is needed for this immersion and re-creation, and paint and clay should always be available in the classroom, with time and opportunity each day for chosen activities.

The immediate environment of farm or village or city street provides all sorts of interesting things which the child may want to shape in material just because they have interested him. But usually it is experiences which have especially impressed him that he will choose to portray. We may expect him to recreate scenes of the past as a way of understanding more fully what has already happened to him, or of the future as wish-fulfilment, wielding in them, perhaps, a power that compensates for his actual frailty. The undersized child can make a giant or the timid one a lion. The very act of shaping or building with his fingers stimulates a flow of images, and releases feelings connected with them. Fear or triumph or hatred, which most cultures repress in their children as being disruptive forces, can be acknowledged and acted out in play. Energy, which would have been used unproductively in repressing such 'unacceptable' feelings and keeping them separate from the ordinary conscious life, can now be released for more profitable ends. On the other hand, potential situations can be explored, without embarrassing or dangerous consequences, as the child pictures to himself 'what would happen if . . . ?'

In this outpouring of a side of the nature not normally expressed the value is largely therapeutic. There is no selection or arrangement, and so no 'art' as we understand it. Aggressive impulses may lead to the pounding up of several blocks of stone before carving proper can be begun. Clay may be used to work off anal or sexual impulses before modelling as a form of art

can be attempted. Or these impulses may be satisfied in the course of making something. But we must not try to hurry the making, nor set all children in a group to make the same thing. The impulses will arise from within as the child handles the material, in a sympathetic atmosphere. But it is only when his desire for ordering shapes, for forms and patterns, emerges as stronger than the explosion of personal feelings that we can begin to speak of 'art.' Positive encouragement to pattern-making reinforces and strengthens this feeling for order.

Before the child goes to school, he may have been living to a great extent in the world of his phantasy, especially if he is an only child or separated from brothers and sisters by difference of age or health or temperament. He is now suddenly presented with a complete new set of values. At school, not only is his physical and social world suddenly extended, but objects and experiences which were peculiarly his own have now to be brought into relation with a group of people. If his hidden imaginative life is not linked firmly to his overt social life, if his private emotional attitude to things is not related to their real qualities, the inner life may grow unreal and the outer life unimaginative. And if the imaginative life goes 'underground' not only does phantasy fail to fulfil its positive rôle, but the day-dreams will persist in later years at a childish level.

So it is our task actively to encourage the expression of phantasy, first, as an essential step in the child's exploration of his own problems, secondly, to bring his phantasy into a form where it can be seen and talked about with his playmates and teacher, and thirdly, to encourage and strengthen his ability to transform phantasy by the power of imagination.

For this he must obviously be given time to himself, and not have his whole life organized. So he must be allowed to go off and play by himself for long periods if he wants to. If we always encourage group activity and imitative social behaviour in the young, and discourage the individual from pursuing his own interest, in later life he will be fitted only for regimented pursuits and mass-entertainment.

Such self-expression, however, is not necessarily art, and if we believe in the power of the creative act, which involves selection and arrangement, thus to encourage the growth of the personality, we cannot let children be content to remain at this stage of such outbursts of self-expression. They are as far from being art or craft as are yells of laughter or cries of rage from

being song. When they have served their function they should be quietly put away. But they *do* have a function, and they must be permitted initially by us adults, so that the children can see that we accept them as persons, accept their anger, fear, and dark destructive side as well as the "good" feelings. They are then better able to acknowledge and come to terms with their own natures. They learn that even destructive feelings can have a healthy outlet because most constructive work involves the destruction of something else. Paint and clay are probably the materials which embody most immediately the direct expression of feeling, and so they are essential for the youngest children, whose emotions are often apt to overwhelm them.

As well as objects made to explore feeling, to externalize phantasy, or to identify sympathetically with others, there are those things quickly thrown together to act as adjuncts, or 'properties,' in a game or drama. When a little girl wants to play at 'homes' she may have a fine doll given her by her parents, but if she has not she does not hold up the game till she can make a complete figure. She seizes a stick, a piece of clay or bread, and shapes one (how necessary it is to have some plastic material at hand), or she wraps a bottle or a coconut in rags, and uses that for her baby. Here the important thing is not the quality of the *thing* she has made, but the emotions and situations which she is then able to act out in the dramatic play which follows. The doll is only the spring which releases this, so the most rough-and-ready thing will do.

A box is pulled along on a string behind a little boy, for a cart or train. He can imagine the wheels which are not there. He supplies the appropriate noises. So he will play happily for hours. To supply him at this stage with a complete mechanical train is to take away from him the valuable possibility of identifying himself through these activities with his toy.

Now, the time does come when the child is no longer content with a box on a string to pull behind him. He wants real wheels which will turn, and it is at this point that the teacher must be at hand to discuss with him how wheels do turn on an axle, and to help him to make a real cart which runs. But again she must guard against thinking that the first attempt must measure up to *her* standards. The child will probably be so excited by the fact that the cart moves at all that he will spend hours running round with it, or inventing some games of

going round his friends, selling something, undeterred by the fact that it is, in adult eyes, a ramshackle contraption. It is later, when he becomes dissatisfied with it, or wants a stronger cart to pull his little sister in, that the teacher, waiting for the moment of readiness, must be at hand again to lead him to the next step.

This may suggest that it is not possible to teach children in groups at all. But while we have taken the idea of age groups far too far (for administrative, not educational, reasons), it is possible to teach by this 'wait for the moment' method in a group to a great extent. This is because a group atmosphere is generated, and the children tend to get excited about the same things together. The questions and discoveries of one child will stimulate the rest. In addition to the phantasy play of small children with paint or clay or scraps of material, and their constructive thought in the making of objects, there is another use of materials which is part of our general knowledge about the world, and is a more direct introduction to the traditional crafts. The growing curiosity of the child about the world around will lead him to ask, not only, "When did men first weave cloth?" but also, "How did they do it?" Not only, "Where do our cups and plates come from?" but, "How does soft clay become so hard?" Between about seven and twelve in especial he will be asking those questions, and he should be finding out the answers through his own experience. To learn how the short wool on the sheep's back becomes yarn and then cloth is a part of his general education, a part of the handing on of the traditions of sheep-breeding countries. An Indian or a Chinese child would be asking first about cotton or silk. Each of those processes should be practised by some of the children in the class. If enough time cannot be given for each child to carry out each process he will still learn a great deal from seeing others and hearing talk about it.

I believe we largely neglect the education of children by each other, which, by making use of their enthusiasm and of their natural way of behaving, puts less strain on teacher and taught. If a form is divided up into groups, and one group sets out to dig local clay, build a kiln and fire pots, while another makes moulds for lead and melts and casts it, and another collects wool, spins, and gathers dye-plants, then at the end of a year or even a term each will not only know a good deal about the discoveries of his own group, but will know some-

thing of the discoveries of all the others. The interchange of talk coming to and from school, the attraction of exciting things going on just across the yard, the sharing of problems and discoveries in class and out, all add up imperceptibly to a surprisingly wide knowledge.

In an industrial civilization or one which looks forward to making technical progress it might at first sight appear that this policy is failing to equip children for the machine age. But the *principles* of weaving, of casting, of brick or stone building, are still the same, and without understanding those discrimination and evaluation of industrial products based on them is not possible. In addition, our languages are so saturated with metaphors of these basic processes that precision of thought is sharpened by direct experience of them.

An enterprising teacher introduced a group of children of different ages to the mechanics of cloth-making by looking at and unravelling different sorts of cloth, and suggested that they might like to discover for themselves how this was made. In unravelling they found that one set of threads were straight, and they saw that these must have been stretched tight. The cross threads, interlocking with these, waved in and out of them, and they argued that alternate threads of the stretched set must have been lifted to let these looser ones through. So, they stretched what we call the warp in all sorts of ways, pulling a continuous thread tight round an old picture-frame, hanging it from a crossbar set on two upright notched sticks, with a weight on each thread. One enterprising boy stretched his between flexed branches of a bough, and when they were released he had a warp stretched tight. They found that the warp must be very strong to stand the necessary stretching. They puzzled how to fasten in the weft. The youngest one, aged five, simply darned it in and out, but this was laborious. The others discovered that a stick or pencil threaded permanently through alternate threads would lift the right combination of warp threads on alternate rows. But how could they pick up the other set of warp threads? Some threaded these threads through safety-pins, which were then strung on a stick. One used paper-clips strung on a string. One used string loops, as are common in tapestry and rug-weaving. Between them that small group of children used their minds to invent for themselves all the essential ways of constructing a loom that have been discovered by mankind.

But the most illuminating comment came at the end. One boy

saw his teacher working on a loom with a metal reed heddle (which they had not been shown while they were experimenting). Knowing that they had to discover everything for themselves, he said rather cheekily to her, "Did you think that one up?" His teacher admitted that this had been thought up by a man some centuries ago, but paused in her explanation when she saw the cocky look on his face change to a genuine humility as he gazed and gazed at it. "It's clever," he said appreciatively, "isn't it?" That appreciation and wonder rather than passive acceptance of human invention is something worth educating for. The products of this adventure, the braids and cloth they produced, were not the main object, the real fruits were in the minds of the children. Their senses had been stimulated in handling string and wool, and in contrasting thick and thin, hairy and smooth, threads; their minds now understood a fundamental craft of mankind through wrestling with its basic problems.

It is obvious that the basic processes must be understood before the machinery to multiply output can be understood. A young child taken to a factory may be excited and awed, but he may be simply confused by the large scale, the complexity, the fact that many of the processes go on too fast to be grasped. I am neither repudiating nor underestimating the value of machines, but the machine cannot be used until the fundamental process is understood. Nor am I suggesting that children should be altogether kept away from machines. That would be quite artificial. They may be a powerful stimulant to intellectual development, and they are a part of the furniture of their world. But a child must be introduced to exploring them *at a level he is capable of understanding*, the scales used in cooking, the pulley and ropes, or the tricycle. The understanding of a complex mechanism must still be approached by way of understanding the simple, but each generation seems to cover the steps more quickly if given the right opportunities. Half an hour with a loom under his hands, or even a sheet of card, a needle and some string will, with some demonstration, teach a child more about what weaving is and how it is done than many hours of description.

In the same way he can be told that different chemicals affect the way in which wool will take a dye. But he knows in different terms altogether, in a different dimension, when he has actually seen wool mordanted with alum, with iron, with cop-

per, dipped in the same dye, and when he has come to distinguish the peculiar quality of all colours treated with the same mordant. This is again something which cannot be adequately described. It has to be experienced.

For the child who is *not* fortunate enough to see the crafts being practised as part of the normal economy of his village or homestead we must provide materials and opportunity for him to learn these fundamental processes for himself, and at this stage it is not so much proficiency that is to be looked for as comprehension.

Most emphatically, the job of education is not to introduce materials and tools which have no place in the economy or life of that region merely because they have been found good raw materials for education in other places. I am an unqualified believer in the virtues of clay in education, because it is plastic, takes so easily the imprint of the forming fingers, provides a wonderful vehicle for expressing emotions, and because from its plastic state it can be hardened by fire—with all the educational activity that entails—into terra-cotta, a permanent material. But I would think it as fantastic to import clay on a large scale into the schools of a region which has none, as to import bark cloth for Irish children. For the crucial point about clay is that, as well as being an ideal material for children, it is a basic material of our culture, as of many others, used in bricks, tiles, sculpture, and utensils from earthenware to porcelain.

To sum up, then, what are the qualities which the younger child will bring to this 'handcraft,' or play with materials, which we can hope will be further developed through such play? The range of his activities covers the whole gamut from logical thought to phantasy, and we must provide the widest variety to meet his needs at different moments. One activity merges into another, and 'play with materials' might be stimulated by story-telling, passing into dressing-up and making props for spontaneous drama. Or it may arise from discovery of mechanisms (scales, bicycles, windmills), passing into construction in order to test out, to embrace, and confirm knowledge. Or play with materials may arise from a stimulus to the *imagination*, more akin to poetry or painting, and may result in grotesque or delicate fantasies in material form. This is the aspect which is most apt to be lacking in our handcraft lessons. The more precise techniques of handwork can be learned more easily and more rapidly in the years over ten or eleven. If the imaginative and the exploring

inventive mind has not been developed *before* that time it never will be : and all the technique we can teach will serve perhaps worthy, but merely pedestrian, ends. This, then, as I see it, is the chief responsibility of the primary school in pre-craft.

I have all along been speaking as though these pre-craft activities would take place in school, as indeed I think they should. But in certain countries where the shortage of school buildings and teachers is so acute that several different groups of children have to use the facilities in succession each day, or where the distances the children have to travel to school are very great, the hours in school may be so short that the schools feel it their responsibility to concentrate on the basic subjects of reading, writing, and counting. Much educational research suggests that these are learned more rapidly if they are taught in conjunction with constructive and creative activities, but if such are not provided in school, what can be done? Very many, of course, of the materials I mentioned can be provided by enlightened parents in the home, and many of them are part of the normal surroundings of country children. It is especially the children growing up in city apartments who need special provisions. Nursery schools and kindergartens provide such facilities and these buildings might provide early evening accommodation for slightly older children. Museums in several countries now run out-of-school classes for practical work. Brazil offers the interesting example of the Escolinhas—little schools of art—started by private initiative but later receiving some official recognition. In many different cities these offer a centre for artists and exhibitions—children's and adult—and organize short courses for teachers, but most important, they offer classes for children and adults where free creative work can go on. The provision of adult and small children's classes at the same hour is a good idea, as parents are more likely to bring their children if they have the incentive of their own class.

A similar sense of children's needs and the problem of finding space in crowded Amsterdam resulted in the original solution of a barge on the river being turned into an activity centre called the Werkschuit. While America has a long history of summer camps and woodcraft activities, and Germany pioneered school excursions to the countryside, both Holland and Belgium have developed seaside camps, with creative activities for the poorer children of the cities (page 80).

There is much to be said for an Arts Centre where music,

drama, and the plastic arts are all practised, since together they contribute to combined productions, such as operas, or to more spontaneous festivals. This idea was, in England, worked out at Dartington Hall, which comprises experimental farming and forestry projects (to keep in the countryside people who would drift to the towns, and providing an Adult Education Centre, and handcraft classes for them); a progressive school, and a beautiful historic mansion to house conferences and occasional professional schools in drama, ballet, music. This has naturally attracted some independent artists and craftsmen to the neighbourhood who contribute to the rural life, and the enlightened outlook on creative work has affected the local schools.

Art centres exist in many cities over the world, and provide not only premises large enough for dramatic productions, but a cultural centre and meeting-place for those with common interests. But however important such centres are in the life of the community, especially till schools *can* provide facilities, they are not a real *substitute* for art and craft in schools. Education should be an integrated whole, and the child should grow up in an atmosphere where he can pass easily from creative work to the acquisition of knowledge, and where the two constantly interact and vivify each other.

While each individual can only be encouraged to develop within his own range, this emphasis on the *individual* vision is not the whole. Education is the induction of a child into his culture as well as being the development of faculties inherent in him. Thus there are two processes simultaneously at work: the unfolding of the self and the adaptation of that unfolding self to outward conditions, and its enrichment by its assimilation of the traditions and customs of society.

The teacher must provide the atmosphere and the materials within which this unfolding can take place. But her rôle is not a passive one. The small child has to be made aware of the great tradition to which he is heir, through the fairy-tales, the myths, and the religious stories, the great buildings, pictures, carvings of the past in which the wisdom of the people is embodied. It is important that a child's first formal education takes place in or near the community round his home, so that the informal, often intuitive knowledge he already has can be related to the new knowledge as it is acquired and arranged. The teacher must be a person who respects what is good in the homes and the traditions of her pupils' village or their district within a city.



*Children examining and playing with mobile toys in a Children's Crèche,
Refugee Women's Centre, INDIA.*



*Children constructing boats on the Werkschuit barge—a Children's Centre in
Amsterdam, HOLLAND.*



Canoe built by students referred to in "A Walk in the Parkland."



There is in some countries a move towards taking children, while still young, from their villages every day or every week, in order to give them greater advantages of school buildings or equipment. But what is lost in security and in a disruption of the sense of identity with the family and the traditions of the locality may be much more valuable. The importance of shared experience in developing a sense of community can hardly be overstressed, and especially continual experience of the festivals and rituals which every community evolves to embody its deepest values. Such values are implied in most of what a teacher does, certainly in teaching a craft.

To learn by example is to submit to authority. You follow your master because you trust his manner of doing things even when you cannot analyse and account for its effectiveness. By watching the master and emulating his efforts in the presence of his example, the apprentice unconsciously picks up the rules . . . including those which are not explicitly known to the master himself. These hidden rules can only be assimilated by a person who surrenders himself to that extent uncritically to the imitation of another. A society which wants to preserve a fund of personal knowledge must submit to tradition.⁶

But in addition to being rooted in the best traditions of the past a child has also to be encouraged to take pride in his own real achievements in the present, and helped to assess his dreams about his possibilities in the future.

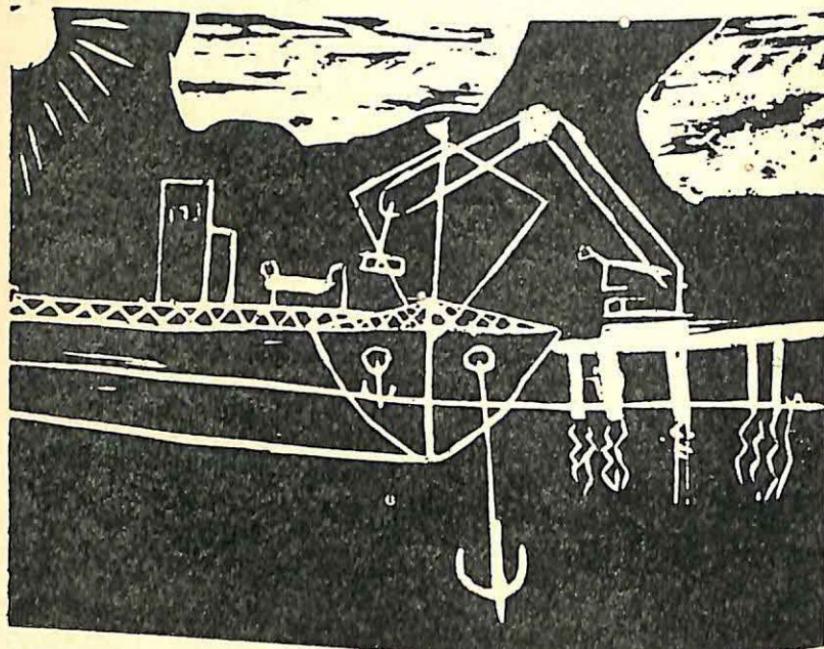
The young child has an unfettered imagination and a sublime confidence in his capacity to transform what lies to hand into what he wishes. The growing youngster is learning, through his exploration of the world outside his home, the nature of the materials of which it is made up. The young adolescent is brought face to face with the stern fact that the world is not fashioned nearer to the heart's desire by phantasy but by a recognition of the true qualities of its substance and the perseverance and skill to work with these in a creative co-operation.

In making their paintings, their patterns, their models, in bringing into a coherent form all the impulses, emotions, knowledge and skill which go to the coherent shaping of such a statement children are constantly reshaping themselves. Mere self-expression, I repeat, is not art, and if we believe in this potency of the creative act itself, to create a more formed and coherent personality, we shall encourage children to go beyond self-personality,

⁶ M. Polanyi, in *Personal Knowledge*.

expression. Feeling has to be transmuted by being brought into touch with the common core of life. The intuitive powers have to be encouraged, strengthened, tested, and brought into relationship with the life around. (This is perhaps particularly necessary to-day, when we are going to have to rely on the intuitive powers of architects, craftsmen, engineers, with great powers of decision and immense technical resources, to shape our environment.) The techniques to communicate ideas must be mastered.

But there are stages of development in the human being just as there are in a plant. The seed is put in the dark under the ground, the seedling needs light and air. The young plant is protected from cold frost or blazing sun, the mature tree may be exposed to them to bring its fruits to ripeness. So though we finally hope for a serious concentration on craft work, for a willing submission to its prolonged discipline, we do not begin by insisting or even hoping for this, before adolescence.



A child's impression of a ship at anchor, unloading at the quay,
a lino-cut made in Escolinha de Arte do Brasil, Rio de Janeiro.

Education: Craft in the Education of Adolescents

IT IS NOT POSSIBLE TO TALK ABOUT THE EDUCATION OF ADOLESCENTS without considering both the potentialities and the problems of adolescence as a whole. Puberty is the stage of physical maturation, but 'adolescence' I use as covering the whole complex state of the personality, physical, intellectual, emotional, in the period between childhood and adulthood. This transition covers the range from dependence to independence, from a self-centred need for satisfactions to a reasonable integration within some society.

Many so-called 'primitive' cultures have in fact, in giving adolescents a clear if limited responsibility, a definite and essential part to play in the whole economic and religious life of the people, provided more sound and stable conditions for them than most industrialized societies have done. The high overhead costs of an industrial concern appear to demand full-time work by the workers even from the day they leave school. Technicians and technologists need an increasingly long training, and so—as for many other groups within modern complex societies—for them the age of economic dependence is prolonged far beyond puberty. With the exception of America, where immigration has put a premium on teenagers (because they can adapt themselves, and so become "Americans" more quickly than parents set in other ways), few modern industrialized societies make a special place for adolescents, or make them feel essential members of the whole group, whose contribution is *needed*. Adolescence is regarded as an 'awkward age' to be got through somehow, and the contemporary talk is all of the problems rather than the potentialities and positive attributes of this stage. We now accept more willingly the characteristics of infancy, and do not dress our babies as miniature adults or expect behaviour which conforms to adult standards. We can enjoy and let them enjoy that stage of their development. True, the problems and demands of adolescence are more complex,

they impinge more menacingly on the adult world, but if we accept adolescents' moodiness, their reverions to childhood habits, their need to gang up or to be alone, while yet constraining them by clear expectation of their contribution to the family and the group, by faith in their eventual stability and immanent adulthood, we show that we value what they are and what they have, rather than demand something they have not.

The whole of education must be involved in such a change of attitude, but bearing in mind the case presented for the practice of crafts in a technological age, we may ask, are there any special ways in which craft education can contribute to the full and all-round development of adolescents?

Although many communities make a more or less complete break between the education of younger and older children, we have constantly to remind ourselves that there is no such break in human development, and that the education of adolescents should follow, and be built on, the activities of the younger children. It is true that there is a different attitude to work, and there is a specific maturation in craftsmanship to be expected of the adolescent, but a wide knowledge of materials and a bold and an imaginative use of them is the best preparation for this.

Before considering those crafts whose consistent practice offers the most saturated experience of craftsman's values, there are quite a number of practical jobs which lie on the periphery of crafts, making equipment, helping in building-construction, and so on, which give adolescents a personal satisfaction, a valuable common experience which future intellectuals will have shared with those who will work with their hands, jobs which offer them the opportunity to work together for their community.

The 'thinking in materials' of the younger child, and the group undertakings—*e.g.*, of building a little kiln or a wheelbarrow, or taking a bicycle to pieces and putting it up again—lead on to the construction of useful things needed for school or home.

The boys and girls of the Alice Coonley School, in the U.S.A., built a garden hut for the infants, and, when the need arose, built for themselves a bicycle-shed. Children in the Werkplaatz, Kees Boeke's school in Holland, made much of their own school furniture and undertook to supply flooded nursery schools with educational toys they made to replace those lost. Boys and girls at Wennington School, a co-educational boarding-school in

England, helped to adapt an old building for their art and crafts studios, learning how to make staircases and set in windows. Boys at Bembridge School, in the Isle of Wight, have a long tradition in building canoes and boats which they sail in the English Channel, as well as constructing furniture for their own rooms. Boys and girls of a school in Tasmania helped in much of the construction of their school buildings, and built themselves a swimming-pool.

It has been shown conclusively in adventurous schools that children trained in independence and responsible workmanship can do such jobs, and gain immeasurably from the feeling that they are making a real contribution to the community.

Furthermore, when the children use buildings or boats which they have themselves made they are very soon made conscious of the disadvantages of weak or irresponsible work, and they come to appreciate the virtues of durable and sound craftsmanship. Such jobs provide the children with a healthy activity in the open air, and also with experience in co-operative enterprises, where they can try out the methods of leadership by a natural leader emerging from the group, by appointed or elected committee, or of democracy in which every child has his say. Such an experience is doubly valuable when there is a wise counsellor in the background who can discuss with the children the actual instances of friction or successful leadership, look objectively at the situation, and help them to learn the advantages and disadvantages of each way of working.

Many parents, education authorities, and Governments think they are doing the best for their children by providing them with immaculate surroundings, completely furnished and finished. I am convinced that this is educationally quite wrong. If we want adults who expect everything to be provided for them and who will complain peevishly when a benevolent deity or a paternal authority does not provide it, this is exactly the way to produce them. But if we hope for adults who will see the shortcomings of their surroundings as a challenge to their ingenuity and skill, who will approach the material world confident in the courage and knowledge that they can order it and develop it for the good of mankind, then we must bring up children from their earliest days to manipulate materials into things they want, and help them to acquire skills to do this. The wind must be tempered to those who are less fit, and more must naturally be provided in the way of a special environment for

the physically and mentally handicapped, but even so, perhaps the greatest gift we can give these, too, is the knowledge that they, also, can contribute to the community in which they live. Even in general and mental hospitals the curative effect of being encouraged to do some kind of work, especially a small piece of responsible work on which others depend, is boundless.

So, while in the majority of schools and colleges provision will be made for a healthy and pleasing building, and much of the furniture which it would be impossible for the children to make adequately, there should always be room for the occupants to adapt the building, to redecorate parts, to make items like bookshelves, display cabinets, equipment for crafts, sports equipment, curtains, tablecloths, cushions, vases, as they need them.

Just as younger children need the contact with nature in a garden, adolescents who retain this interest can be encouraged to make or adapt a garden, to construct a corner with feeding-tables and a bath for the birds, and possibly a butterfly enclosure or bee garden, which all give opportunities for developing the environment for use and pleasure. The rescue of waste ground to house the animals, the construction of hutches, hen-coops, pigeon-cotes, fish-tanks, and the regular care of animals provide for urban children much that must be lacking in their home environment. In country areas such studies under a teacher who keeps up to date in his subject give an opportunity for improving the domestic rural economy by introducing better methods of care and breeding. Mathematics, geography, the keeping of exact records, and simple business training can derive from this.¹ In all these projects and activities the school staff may be helped and the relationship with the homes built up by inviting the aid of parents who have special skills. The division of loyalties between the home and the school can be largely avoided by making parents feel they have an important contribution to make, and parent-teacher organizations can foster this. Village colleges, such as Impington in England, or similar institutions, where the adults use as a centre for evening classes and recreation that building which is the older children's school by day,

¹ The best example of this which I have seen is the complex of educational institutions at Rosario, in the interior of Brazil. Here, under the inspired leadership of Helena Antipoff, is a farm, a children's home, a baby clinic, a Training College for Rural Teachers—using the horticulture as the basis of learning tool subjects—and a research centre sifting the results of thirty years' experiment. Such centres are laboratories where methods can be seen and assessed, and it only remains for the authorities to acknowledge and make use of such pioneer work.

help the parents to feel themselves involved with the school, and partly responsible for its care.

Even in science teaching, which might be regarded as requiring the most modern and complete provision of technological equipment, some of the most famous science teachers to-day repeat what Rousseau said two hundred years ago, "Let the children make their own equipment so far as they can."

While this activity of providing amenities and improving their surroundings with some skilled help is an excellent experience for both boys and girls, such co-operative jobs, undertaken as need arises, do not offer quite the same experience as does craftsmanship in its fullest sense, and should not be an *alternative* to it. Both are necessary till it is evident which activity is more productive for any boy or girl. Unless it were being pursued as a vocational training, I would question whether it was worth an adolescent devoting much time to perfecting skills in such construction—he needs only enough to do a job which will serve. (Possible exceptions are furniture-making and boat-building. Those two also fall within the group of traditional crafts which appear to have a special claim because of their educational value.) The adolescent may well join for a short time a group working with a skilled teacher, merely to provide something he wants; or he may pursue one of these over a long period as his chosen craft for the satisfaction which he gets from achievement in that material. This activity called craft is not the busy co-operative one for an immediate end-product; it tends to bring about a more contemplative inward-turning state—man alone with his material. And yet these attitudes are not quite separate, for one may watch a rowdy schoolboy with a trowel in his hand absorbed in laying brick after brick as carefully and perfectly as he can, the idea of the final product lost for the moment in the satisfaction of the work itself.

But some activities are more conducive to this than others. While the original definition of craftsmanship I gave must include a wide variety of occupations, from wall-building to aircraft-engineering, the many claims on the time of the adolescent force us to weigh up very carefully any activity which we specially encourage by providing for it in school. Therefore, while many skills and trades may lay claim to being crafts in the widest sense, all are not equally valuable for education. From long experience I believe that there are certain criteria which help us to evaluate those activities.

First, a craft which involves the use of certain raw materials such as wool, wood, stone, and clay develops, as nothing else does, an acute sense of touch which can be the source of great pleasure, and leads to a sensitive appreciation of texture.

Secondly, in a craft which involves making from the raw material to the finished product, controlling the processes, perhaps the shape and colour, at every point, there is a much fuller expression of the personality and ideas than one which is practised on ready-made materials, and this making from raw material to finished product leads to a quite peculiar sense of satisfaction, indescribable to those who have not known it.

In addition, any craftsman who has worked with organic materials can assure you that they have indeed a life of their own, and that the final product arises from an interplay between his conception and the suggestion arising from the inherent quality of the materials. (Synthetic materials, while immensely valuable in enlarging the range and increasing the number of things for our use, lack two qualities invaluable to the craftsman —vitality and tradition.)

Fourthly, any material which has been used by men for centuries not only provides a practical and tangible link with historical studies, but also offers the craftsman a heritage of tradition. Even though from necessity or choice he extends his craft beyond the tradition of his own people, his work can be inspired, and he, as a person, enriched by contact with the great works in that material. These provide a sure criterion.

Fifthly, any craft which is practised in organic materials leads to an interest in, and knowledge of, the wider world which is their source, opening up the subject into the fields of local studies, geography and geology, archaeology and anthropology.

Lastly, the practice of any craft which provides one of the fundamental necessities by which men have won their way to civilization, tools, utensils, clothes, provides a deeply rooted satisfaction, and gives stability to standards of judgment. In anything he later buys or uses involving these materials such a man has a criterion beyond novelty and fashion, a touchstone of value. This is not to say that crafts practised on manufactured materials are valueless—many such will be discussed—but raw materials offer a special experience which we seldom get in later life, when most things come to us processed.

For each of us the horizon is limited by our experience. Perhaps even now some school is working out a way with plastics

or synthetic fibres, which opens up possibilities of such development of the senses, the emotions, and the imagination as may give it equal value with the traditional crafts. I hope so.

Great artists like Gabo have made beautiful and exciting constructions in plastics. When an abstract artist has been brought in to design for, and co-operate with, a machine some of our finest and most formally satisfying machine-made objects emerge. But for children, tradition is a great teacher and a great source of enrichment. It is all too easy to substitute the superficial attraction of being 'up to date' (which means being out of date very soon), for deeper satisfactions, or to imagine that using a modern material implies modern thinking. Even the contemporary images reform themselves around age-old archetypes.

If the criteria suggested as principles of selection for crafts as a *mode of education* are accepted, that is crafts involving raw organic materials, responsibly controlled from start to finish, involving the student in traditions of work from early times, then teachers in different countries will be able to select from their range of local crafts those which answer to several of those criteria, and which are yet feasible to pursue at school. For example, a tiny one-teacher school, in the hills of Wales, adopted spinning because of its local associations (Welsh woollen mills are an ancient industry), and because no elaborate equipment was needed in their cramped space. The children gathered wool from the hedgerows, and bought oddments at sales, they gathered plants for dye, and boiled them on the open fire. They made spindles and knitted up their spun wool until some of the older ones learned to make small looms. They searched their grandfathers' memories and local records for information, and explored the neighbourhood for old 'spinning-galleries' and spinning-wheels. Interest was so much quickened that while a great deal of time was spent on these pleasant employments the more formal work did not fail behind. This is a fact proved over and over again, that children of any age, whose interest has been aroused, and who are encouraged regularly to pursue a chosen investigation and some form of creative activity, work not less well but harder at academic work.

To return to the principles of selection for crafts in schools. If we look to craft to provide children at adolescence with a fully expressive and creative activity as a parallel to poetry and music-making those crafts which involve a great deal of

mechanical repetitive work will be less suitable. If we hope that craftsmanship practised *over the years* will lead to a widening experience of other facets of life those which have a very limited range, such as upholstery or cane work, will offer less scope. Those which have very little tradition, and are ephemeral, like paper-sculpture, will not offer an ever-widening experience.

Schools which run an 'experimental flat' may concentrate on crafts associated with homemaking. Girls still delight in being offered a range of crafts linked to dress, such as sewing, fabric-printing, embroidery. Dressmaking (even if it is very often practised with manufactured materials) is bound up so closely with the development of the adolescent girl's interest in her body and its decoration, and is one of the arts (in constructing or combining clothes) which will be practised all her life, so that I believe it should be a part of the training of every girl. The making of jewellery would qualify for the same reason too. In the traditional sense of work in precious metals this is beyond the abilities and pocket of most girls who may, nevertheless, get a great deal of pleasure from using flowers, "seeds, shells in original ways for personal decoration. Many men who, because of the custom of their society or a desire to emulate those societies which are more technologically advanced, adopt a dark city suit (which has almost become a world uniform of the businessman) are secretly attracted to much brighter and more varied clothes. The reasons for adopting or rejecting any dress are deeply complex psychological ones, but I think it would do no harm if the boys in the Western World were encouraged to adopt a more personal and varied costume suitable for the activities they practise, and those of the Orient encouraged to retain their traditional dress, when it is comfortable and pleasant, or to invent more suitable variations of it. To interest boys at school in making items of dress within their scope—for instance, ties, scarves, waistcoats, slippers—frees them from merely copying their idol.

There is a period when youngsters want to wear the same clothes, to assert their solidarity with the gang or group, but the signs of rejecting this and of personal responsible choice are signs of growing maturity. It is tragic that they are so often suppressed by compulsory school uniform, by canons of fashion or 'good taste' as it appears to their elders, or by scorn for their experiments. By our attitude to dress, footwear, hairstyles and decoration, and make-up, we ought to be putting before the

youngsters criteria which are more stable than our preferences or current fashion (neither of which can give them any final guidance). All these things are closely related to the shape and colouring of their own bodies, and must first be considered honestly as additions to or adaptations of that. It is worth helping adolescent girls to clarify for themselves their reasons for using make-up—convention, the desire to appear more healthy or more attractive or to adopt a mask for their own personalities.

Clothes are not primarily a protection from the weather,² but an adornment or a disguise for the body, and help in a sympathetic appraisal of their own bodies and what different styles of clothes can do will give them criteria beyond mere fashion. Then ornaments, make-up, and clothes have to be related to the movements they use. Obviously hairstyles and clothes for trekking will be different from those for dancing, but the physical hang and swing of certain clothes may not only be suitable for dancing but actually an inspiration and incentive to it. Such a full expression of themselves and their way of life can later begin to be related to convention and ritual in clothes, and to possible modifications out of considerations for others. But unless young people have been positively encouraged to explore their own feelings towards clothes and decoration—and surely the time when their interest arises during their school years is the time to do this—how can they be helped to get through their wilder experiments and bolder mistakes in an atmosphere of sympathetic discussion and candid appreciation before they suffer too cruelly for them? Education should be a preparation for life and not a forced postponement of its problems. To-day, more than ever before, young people must be allowed to work through experiment to their own standards, because with the disappearance of widely accepted values in conduct as in art, they are given no clear canon common to family, school, and work. They can only work out their own standards by taking the responsibility of their choices, even if these are sometimes extravagant or extreme. The ideal is that this should take place against a stable background of tolerant insight and guidance. The striking fact is that just as the emerging craftsman ceases to indulge his wilder fancies and finds his satisfaction in restraint, so the majority of young people who feel this free-

² This is convincingly argued in J. C. Flugel's *The Psychology of Clothes* (Hogarth Press).

dom was gladly given, emerge as more, not less, co-operative and considerate human beings.³

There are signs in many countries that adolescents as a group are feeling that they have too long been treated merely as passengers on the way to somewhere else, instead of as personalities in their own right with desires and needs appropriate to their own age, and are asserting themselves all too forcibly. Since the increasing length of training either in school or technical college postpones their economic independence with all the other freedoms consequent on that, they should surely be encouraged to achieve independence in every way that is reasonable. Moreover, the less academic would be much happier working at a job for at least half the time, and would be making a real contribution to the community, and gaining some measure of financial independence for themselves. But the school classes or centres which they attended for the other half would need to be organized on very different lines from at present, where the layout of the classrooms, the organization of timetable, and often the attitude of the teachers, all treat them as children until the very day before they go out and take on man's work in the world. A craft which they saw as useful in their adult lives—house-decorating or canoe-building or fabric decorating and dressmaking—could play its part in such part-time education, in developing habits of sustained work and pride in achievement. Crafts which at the same time express and reveal their personalities are necessary because adolescents, who are searching for some mould or form of personality to present to the world, who try on one model after another, discarding them as easily as ill-fitting garments, need very much such expressive activities to help them to define the personalities they wish to be.

The continued practice of a chosen craft over some years has much more value both in habits of sustained work and in the insight gained than the superficial tackling of three or four. After the values of craftsmanship have been firmly established in the personality, then a student can more quickly master other crafts and grasp their essence, because of the discernment acquired through the first.

In contrast to the fundamental processes of *making* which give to child and grown-up that extraordinary satisfaction dis-

³ Compare the similar conclusions arrived at about delinquents, in *Mr Lyward's Answer*, by Michael Burn, and also at Summerhill, A. S. Neill's progressive school—described in several of his books.

cussed earlier, there is mere decorating, which has often usurped the place of true craft in school education. Just as a pseudo-craft may be carried out in material which is already imprinted with another's mark either in colour (e.g., plastic), or in pattern (e.g., ready-printed paper for endpapers of books), so the larger part of the satisfying job may be taken out of the children's hands by giving them ready-made objects to decorate. Ready-constructed boxes or ready-made lampshades to paint; the made-up and stamped embroidery sold with the threads all selected—none of these can rank as crafts in our sense. Those who have no other opportunities do undoubtedly enjoy such limited activities, but the satisfaction of decorating an article made by some one else is meagre beside that of making fully. All live satisfying decoration springs (1) either naturally from the process of making, as does the alternation of lines or checks in weaving, or (2) in the final flourish, the overflowing exuberance in the love of his medium of the maker-craftsman, as is the slip-trailed decoration of the potter excited by the surface of wet clay. A student who is denied the satisfaction of making completely, concentrates on decorating till that part usurps the whole and mere decorating becomes an end in itself.

Nevertheless, certain decorative motives, even though debased in highly civilized societies, have a deep underlying symbolism which may make work involving them satisfying even after the meaning has been lost. A *Sicilian Carretto* illustrates this.

Much peasant decoration is of this type, and the grimness of a very hard life is often lightened and varied by the habit of elaborately decorating objects. Sometimes a form of decoration (perhaps in addition to distinctive crafts) is preserved in a sub-group united by race or religion, an outward symbol of their solidarity within or against the larger group. So it is with the costume and household goods of Piano dei Greci district of Sicily (whose inhabitants fled there from Albania nearly five hundred years ago), or the bargemen of England, whose buckets and cupboards are decorated with traditional castles and roses. The gipsies, too, preserve the bright colour and many traditional customs of their people, outward symbols of their difference from the sterner northern races, binding them together in every country through which they sidle unattached.

The fact that adolescents respond to different activities presents problems even to those schools which have several art-and-craft staff. It is very important that a craft should have a

'home' where its materials and equipment are available, and where work in progress can be left. With adolescents it is not satisfactory, as it is with younger children, to have plenty of scrap materials in their own room, or to carry extra equipment around when it is needed. There is something quite fundamental in having a certain place—even a shed which may extend into yard or garden—for a craft activity. This may add to the difficulties of the selection of which crafts the school should offer. But if the children are partaking in these more general constructive activities of which I spoke, I think a school need not strain after running too many crafts. Along with art and the domestic crafts for girls, a small school could offer pottery, or pottery and carving. Or it could offer woodwork and boat-building, or woodwork including carving. This offers a certain range suitable to boys and girls, and to the different temperaments among them. If, of course, a school can offer a wider range and more room all the better.

In countries where the summer is short the children can spend more time out of doors in good weather, if the timetable is flexible enough to allow time for seasonal crafts, involving gathering plants for dyes, wood for carving, rushes and grasses for weaving. Studies which are more formal, or require indoor apparatus, can be more concentrated at the winter seasons. This, however, requires the teachers to be flexible too, and their training must develop such an attitude to the children's health.

I would like to plead very strongly for enough flexibility in the school timetable for groups to meet and practise the crafts apart from the formal grouping by age or academic achievement. In the first place this allows for a cross-section of ages, involving a natural way of learning, the younger children from the older. Newcomers to such a group see the different stages of the work going on all round them, and learn a great deal, both of the skills and of the attitude to craftsmanship, not by formal teaching, but simply by picking it up. They see, too, more of the possible range of work as it progresses, which stimulates their interest to tackle new things. In a subject where there are no measurable external standards of achievement but, one might almost say, progress consists in becoming aware of what achievement is, it is vital to have some good work always going on.

In the primary school all children could be taught tool subjects in class groups, with a time for freely chosen activities each day and some definite lesson-times in music, art, and drama,

with their own or another teacher, whose special interest it was. In the secondary school after twelve, at least, academic subjects could be taught in attainment groups, and the arts and practical subjects in interest groups with a cross-section of ages. This allows a whole morning or afternoon to be given every week, even if it cannot be given for every term in the year. The ideal would be to have something like the old workshop with the master-craftsman and apprentices at various stages of progress, and we can try to approximate to something like this in our schools and colleges.

Many communities still *need* traditional crafts which have not been mentioned here. The fact that they are traditional—giving a sense of history and of belonging to a local culture—is an important reason for their inclusion in education. But I have been speaking mainly of those civilizations where a choice of crafts can be made on purely educational grounds. Even in highly industrialized communities skill in cooking and some skill in needlework are still essential to life in the adult community, so they must be taught at school. Other communities may require skills such as basket-making or weaving or boat-building for the maintenance of life, so these must be taught. But at the point where it no longer becomes absolutely essential to teach children a certain skill (because it has been taken over by a machine or the product can be imported instead), at that point it is worth pausing to ask whether the activity has some value other than the mere end product. Before there were organized schools a great deal of what we now call education went on through the handing on of such skills, and the values attached to them, imperceptibly conveyed by the 'master.'

I have suggested that crafts are related to many other studies, to geography, history, archaeology, botany. As one progresses in a craft the measuring and recording involved, and the more precise knowledge of materials—the chemistry of pottery and of fibres, for example—even though they form only a small part even of advanced work in school, link it with science. I am taking it for granted that these studies will offer complementary, not contradictory, views of the world. We have to demand from scientific discovery, from advances in machine technology, not only more things to wear, more objects with which to furnish our homes, or means to transport us, but objects intrinsically more pleasing. This is achieved only by concern for quality and a sense of values. Such concern for quality can be developed in

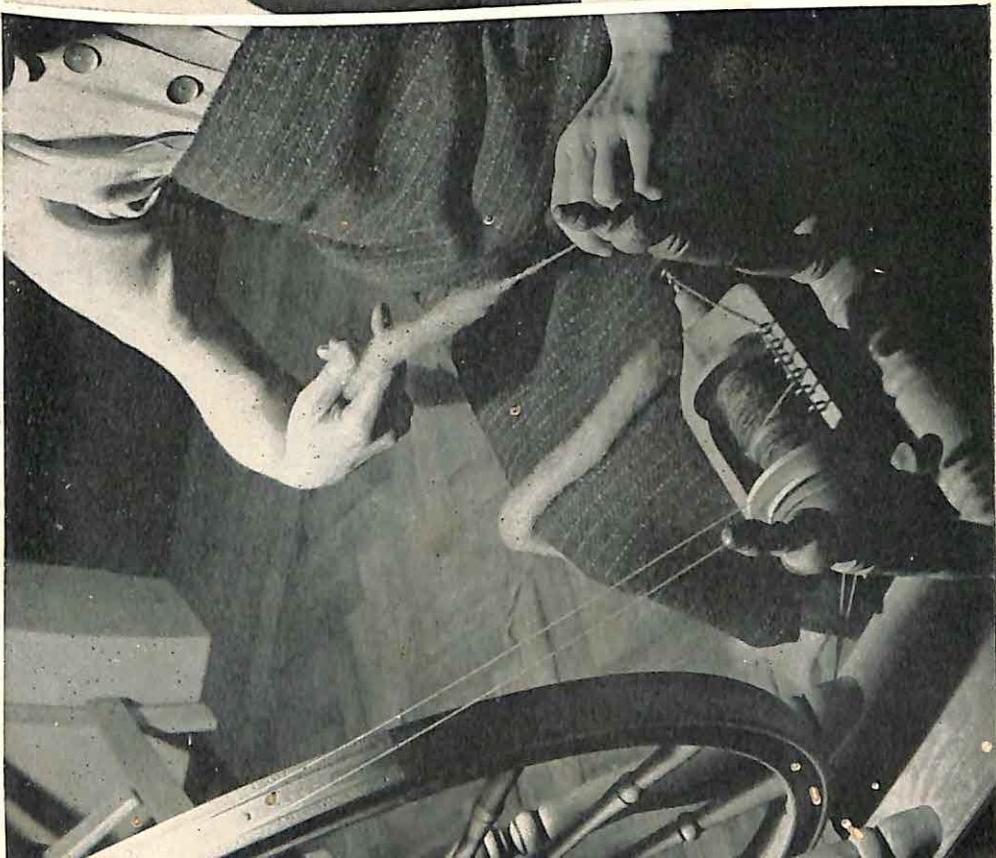
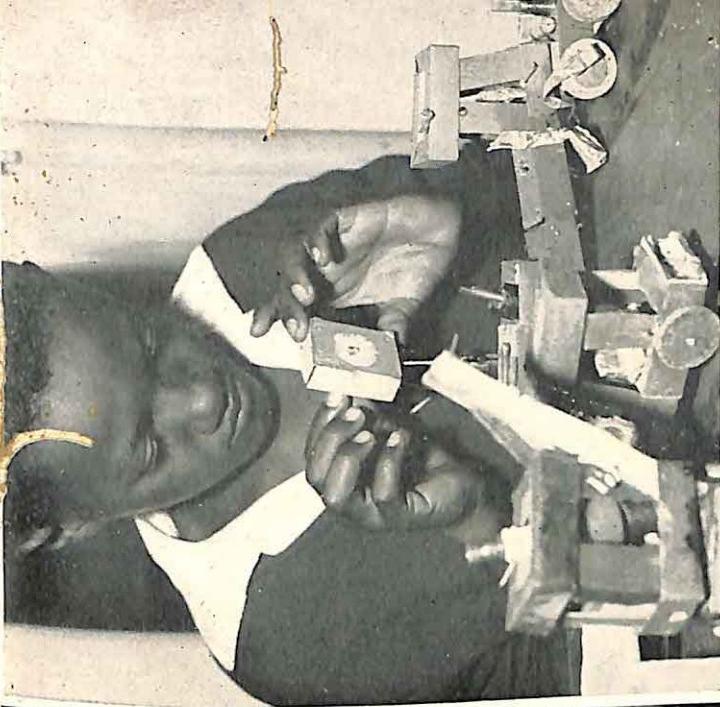
adolescents by the deep study of a craft (though not by the superficial study of several). Such values cannot be conveyed directly, as information can, nor even grasped as intellectual knowledge. Continued experience and personal commitment are the conditions of acquiring such values as these.



A girl's interpretation of an actual experience. The young adolescents in a Dutch summer camp made this huge totem pole of tree-trunks for their camp gate. They hacked the deer from wood with axes, and hoisted the whole with ropes to tree-top height.

(Left) The spinner guides loose separate fibres of a rollcock of sheep's wool into the spinning-wheel.
WALES.

(Above) A descendant of African cotton-pickers makes engines out of matchboxes and scrap materials in Escóchinha de Arte do BRAZIL.



Heimatwerk shop in
Zurich, solving craftsmen's problems of display and sales,
SWITZERLAND.



Heimatwerk basket-
aker working at home
ith materials from his
own neighbourhood.



Education : The Training of Teachers

BEFORE TURNING TO THE TRAINING OF TEACHERS OF CRAFTS it would be profitable to consider what is involved in the training of all teachers. I would suggest that the education of children has two main aspects: the fullest and richest development of their own personalities that is consonant with living in a group; and the induction of each child into the heritage and traditions of his society—which, with the growth of communications and the speed of transport, is widening all the time.

Therefore a teacher has to know the overall pattern of child behaviour, yet to acknowledge the infinite variations among individuals: she has to understand what has been discovered of the many-sidedness of human development, physical, emotional, intuitive as well as intellectual, and have some inkling of their relationships, as in the physical handicaps and emotional barriers to expression and learning. So she must have studied children closely, individually, and in groups, have read and discussed, and matched her reading with experience.

But since, especially in the arts, we are daily being surprised and delighted by the development of children through activities comparatively new to education, such as dance, pottery, film-making, the student in training must have the chance to see adventurous work in the best schools so that her theories are not bounded by her own experience, and so that new ideas may be studied, sifted, and adopted by those temperamentally fitted to use them. Above all, for a good relationship with children the student must have time to get to know them, and first as individuals, in a small group, in a natural situation. In this way the children will more easily reveal the selves that are the concern of the educator, and the student without a large group to control will be able to give herself up to the pleasure and interest of being with children. This pleasure and interest, the *sine qua non* of teaching, is often killed or dulled in the very first teaching

practice if students are pitchforked into dealing with large or unruly classes. So I suggest very strongly that no class-teaching with large groups be undertaken until a student has had this continued contact over weeks with a group of perhaps three to six children, in the easiest and most natural atmosphere. This may be in a club, or in holiday work in a residential home for children; it may be with children visiting the training college each week; or it may be by the students visiting schools and taking the children out with them for a few hours a week, or, at worst, taking them to some more secluded part of the school to pursue some project *chosen by them*. In the present state of our schools dealing with large numbers must come, but can come later in the training period.

Along with the empirical study of children in circumstances as natural as possible must go the introduction to that body of knowledge which is the formulated and organized record of educational experience, the systematic study of education and psychology. But if the course centres on the observation of children such lectures, instead of appearing an indigestible wad of theory, may be welcomed as giving norms against which to see the behaviour of 'our' children. A spaced series of major lectures, the cream of educational thought, is a stimulating discipline demanding the utmost concentration from the student. But they must not occur too often, and they must be followed by time for discussion and digestion. I believe that the most important work, especially during the first year, will be done in continuous informal contact with a tutor who is working with a smaller group in a more flexible way, responding to an incident which has aroused their interest, using their experiences with children as illustrations, and relating these to their more systematic study.

A small corpus of background-reading in common is necessary if discussion is to be profitable, but quite soon each student should be pursuing his own interests, and sharing them from time to time with the group. Out of the growing mass of psychological and educational literature, it becomes increasingly difficult to choose, and therefore it is the more necessary for tutors to come to a clear conclusion on their aims, and not try to cover superficially every aspect of the field.

It appears to me that, consciously or unconsciously, the staffs of training colleges are doing one of two things for their students. Many are saying, in effect, "Here we have these young,

immature people, who cannot possibly get through the study and reading necessary to form their own opinions in the short time we have. We must above all give them confidence to go out and handle classes, and not be swamped by the scale of their job. Therefore we tutors must set before them a clear aim, limited objectives, and simple methods for use in the classroom." I have sympathy with this reasonable and practical policy, especially when the other seems too elusive to define, or too difficult to pursue. However, it has seemed to myself and many others that our *chief* task is not to hand on knowledge or skills—though these must have their place—but to build up the personality of the students as independent individuals strong enough to work out their own aims in education, and courageous enough to search for ways of achieving them.

Teaching is at least as much of an art as a science, and any objective or method can only be offered in the spirit of "This is what I believe in. You must accept it only if it answers to something in you. You can adapt it, vary it, and in time perhaps you will find that you have something of your own that you can use as flexibly as your own arm. If you are inclined to reject it then question it, examine it, formulate something of your own which answers your objections, and try that out, and so find your way into something to which you can feel committed."

This is indeed leaving the students, during the first part of their course and even facing their first practice spell in schools, with no *ultimate* aim, no clear direction of where they are finally going, because I believe that as human beings they must choose that for themselves. But it can give them clear *intermediate* aims. Any final aim in art must include the enjoyment of the visible and tangible world, and the exploration of materials, offering scope for weeks of study. The first approach which was outlined held for the student the danger of adopting too early a firm defined aim which would protect her from self-questioning or outer assaults, as a lobster is protected by his shell. When, however, a lobster outgrows and needs to change his shell he can creep into the cranny of a rock, and escape assault while his new armour slowly takes shape around him; but the young teacher would expose herself vulnerable while on the job, and so hardly dares to drop the protective certainties on which she has come to rely. So she must remain at the level of her immature student philosophy.

The danger of the second approach is the early period of un-

certainty and the possibility that a student may even finish a too short course without having arrived at her own philosophy of education. But she need not be left without certainties altogether. This approach must rest fundamentally on a faith in human beings and their potentialities for good. The tutor needs to show that faith in her students, and to develop it in them by her never-failing concern for, and appreciation of, children. This is not a belief in the children as empty pitchers, to be filled by us, nor a Rousseau-esque belief in their innocence and purity. It is so much easier by the provision of certain conditions or by the creation of a certain sort of atmosphere to let only 'good' or 'nice' things happen in our classes, whether it is a question of good taste or good behaviour. If we admit that evil and crudities exist but we will not let them appear, this relegates the bad and the nasty to some other sphere over which we take no responsibility (for ignoring certainly will not destroy them). Art and craft is only an education for life if our essential attitude to both is consistent. Only if the crudities, extravagances, and failings of an adolescent's painting are accepted as part of him, considered in relation to his stage of growth, do we show respect for him as a person. I do not mean that a moral attitude is to be applied to art, but rather that the aesthetic attitude can be more widely applicable to life.¹ Students too need this respect.

If we put first the development of the teacher's personality—surely the most important factor in education—we must not be tempted to look for quick results. It is after some years that the value of the training to the schools and the quality of the satisfaction for herself will emerge. A training which aims at slow maturing may, however, turn out students less confident to deal with their first year's teaching than a more forthright approach, and such students may need to be supported by a sympathetic older colleague or by continued contact with their college. So we can help students to enjoy children as persons.

When a child's attention is caught by an insect, a machine, an event outside or inside the school, the teacher's job is to encourage this interest by sympathetic appreciation, and to have at hand the material, or the knowledge where to find it, so that interest can be pursued. But education cannot be left to such chance sparking, or there would be little hope of all-round

¹ Having acted on this assumption without defining it. I was grateful to find the idea worked out philosophically in *Creative Morality*, by Arnaud Reid (Allen and Unwin).

development. The teacher must be some one who is aware of the great variety of human experience, aware as no child can be of the beginnings which may lead on to the riches our civilization can offer. She is above all one who evokes interest, who can spark off such a flash. How is this done? Surely only by being excited and interested herself, and sharing *that* with the children. Here is another reason for not precipitating young teachers too soon into situations where nervousness or weariness may inhibit their initial enthusiasm and open-ness. If the teacher is not fascinated afresh each day by the material of her job there will be no education, only a toil of learning.

Here the training college has a great responsibility. The students come to it not only after years of working to the pressures and external standards of examinations (which often, though not necessarily, vitiate interest), but with their responses already dulled or inhibited by the scorn, the misunderstanding, the "dusty answer" that we all, to some extent, meet in growing up. Perhaps the first job of a training college is to provide the sort of atmosphere where students can expand and explore new experiences; can make honest mistakes, and accept the consequences; can develop enthusiasms and devote themselves to following them in a sympathetic atmosphere. If students feel that they themselves are not accepted in their fundamental individuality they are forced to adopt outward guises behind which the real self cowers or builds up resentment. Then, how can they come openly to children, willing to share their enthusiasms, to share themselves? If education is a long process which begins in a moment of excitement or awe shared between a child and another person, that person must in that moment be openly herself, not sheltering behind any façade of superiority, or status, or even shyness. This moment is essentially that of one human being meeting another, not child and teacher, or student and tutor. After that common feeling has been acknowledged then there is plenty of time for the greater knowledge and skill of the teacher to be recognized, and for the child or student to be urged to the uttermost discipline of pursuit. This conception of teaching implies training-college lecturers who are willing to be open and ardent human beings first, and scholars of their subject, tutors with a wealth of experience to lean on, second; or, best of all, those who are obviously more fully human beings *because* of their knowledge, when there is no 'first' or 'second.' And it is true, the qualities demanded of a good

training-college lecturer are an extraordinary combination. I have put this quality of open humanity that I consider most important first, but the human and intuitive qualities are far from enough. The lecturer must have not only a wide knowledge and experience of children, but a knowledge of the many branches of her subject sufficient to lead the students up different paths or by different skills as far as they can go: she must be capable of organizing and verbalizing her knowledge so that she can present it coherently, and select from it whatever illustration is appropriate to the situation. In addition, the sum total of the knowledge about any subject is daily added to at one rate or another. If this new knowledge is simply pressed in alongside the former, the school-child and the student in training will be over-powered by the sheer amount. We have to be constantly reassessing, not only the new knowledge pouring out in books and from experience, but the whole field, selecting afresh what is most important and most related, boldly deciding to drop what has less relevance. This does take courage. We are constantly assailed by some section of the public deplored that a child should leave school or a student leave college without knowing this and this, or being able to do that or that. But every section sees only its own interests, and protests in favour of its own enthusiasms. If children and students are not to be swamped by the growing pressure of those demands we have to decide courageously what is important and go for that. This inevitably means stringent pruning. If the dead wood is to be cut away one must be a good enough gardener to recognize the living shoots.

In addition to a wide and up-to-date knowledge of her subject a training-college lecturer has to be so flexible in her approach, that, instead of merely working through a syllabus, she can draw on whatever aspect or branch of it a student wishes to pursue, and present that within a wider whole. Beyond this attitude to her own subject she needs to be a person aware of the deeper values within her own culture, and prepared to work with colleagues in relating her studies to larger projects. It is not by lecturing about an integrated education, but by putting it into practice in their own treatment of students, that training colleges can present a coherent view of the vocation these young people have chosen. If college students are to change within a period of about three years from school-children to responsible adults capable of taking charge of large groups of children then they must above all grow as persons. They must understand their

own adolescent confusions and difficulties, which persist into adulthood in so many of us; they must come to terms with themselves, and learn to accept other people. They must attain to some conviction about what they are teaching (which will of course be modified by experience), and begin to formulate their philosophy about the nature and purpose of life.

Our own personal experience and all that we know about young people growing up must force us to admit that this maturity cannot be attained simply by learning the techniques of teaching, nor can it be achieved by learning smatterings of many subjects in order to be one step ahead of the class. Certainly techniques must form part of the training course, but if the main object of training teachers is to have relatively stable, wise, mature guardians for our children, teaching these techniques will not achieve that end. *We cannot teach maturity, we cannot produce it or bring it about, all we can do is to create the conditions in which it is most likely to develop.*

A residential community which presents a *coherent* way of life is a most important factor in this, and the Principal of such a college must, therefore, have a great voice in the selection of staff, and must provide ample opportunity for discussing policy.

Since the period of training is relatively brief, the students must first be freed from major obligations to their families for that time, they must be given conditions for study, access to libraries, etc. not possible in any home. They have received what home can give them, now they need to meet a different kind of community dedicated to the life they have chosen to take up. An enlightened residential college will also seek to give them surroundings which present standards of quality, however simple, and the experience of a planned environment not possible in every home or in lodgings. A residential community can offer a stable centre from which excursions can be made, and a close-knit group within which responsibility can be accepted and social maturity can grow. There can be no social responsibility without this sense of belonging to a group, but something more than social maturity is required of the teacher. The emotional and intellectual maturity for which we are looking can be promoted through a sustained disciplined study of one subject which has deep human implications. It is now quite accepted that the student in training as a teacher must pursue such a study irrespective of whether it has direct bearing on what she will teach. For the student training for secondary

teaching this subject will probably be one she is going to teach. Such a study is equally valuable for the teacher of younger children if it is pursued as a liberal study.

To those who have not studied a craft it might seem that the crafts are too practical, perhaps too limited, to supply the wider human outlook which literature, history, or biology can give. But not only do the crafts develop the senses and aesthetic judgment, their practice raises an enthusiasm which opens up historical, geographical, and other studies just so far as the student wishes and is capable of pursuing them. It is true that the crafts do not offer the stringent intellectual discipline of mathematics or the sciences, but they demand a discipline of a different sort, a discipline in coming to terms with a material which is one section of the physical world. This is a discipline which can be accepted by many students who are not of great intellectual calibre, and who would be disheartened and frustrated by the lengthy pursuit of an academic subject which is not necessary for all teachers.

While specific claims in one direction or another can be made for almost any field with traditions and humane values, the study of a craft often proves a very suitable subject for teachers of children up to thirteen or so, because the ramifications of their chosen craft, its traditions, its historical connexions, the geographical sources of their material, all link up with much else that they will do with the children.

I have said that the subject which is to serve the particular purpose as a special study should be one to which the student responds intuitively. While the prolonged study of crafts in our schools is often still so inadequate we will have students coming to college who have little experience of crafts, and will not necessarily know what one they might wish to study.² Since a good deal of their time is to be spent on this main study, it would be unfortunate if they made their choice haphazardly within the range which it is possible to offer in relation to the equipment and the staff of the college. I believe there are methods of selection.

First of all there is the sensuous response to the various materials—some people dislike the feel of wet wool, and would,

² The fact that most of our teachers come from the Grammar type of school, which does not encourage the study of craft or provide time and facilities, means that there are few teachers trained to teach the people who will come on to training-establishments—a vicious circle.

if they took up weaving, have to endure many hours of discomfort. A few dislike the texture of plastic clay—although in my experience this is usually a conditioned reflex produced by an obsessively clean parent, which often disappears if a student brings herself to use clay for a few hours. To one the smooth surface of wood is very attractive, and she immediately feels she would be willing to put in many hours of work, as indeed she must, to achieve such a satisfying smoothness. To others the hard intractability of metal provides a challenge.

In addition there are the actual conditions of work to be considered. Some students will dislike working in the atmosphere of stone-dust inevitable when stone-carving, and others may intensely dislike the noise of beating metal.

As well as the material itself there is also to be considered the rhythm of the work. To some people the short, almost jerky movement of chipping stone is an irritation, and to others the large movements of hammering iron would be impossible. Building cloth involves varieties of movement in spinning, in threading up the loom, and in weaving. Both spinning and pottery involve a spiral movement which is deeply soothing and satisfying. Such sensations have a deep physical basis, and each body has a natural, or optimum, rhythm. It may be necessary to overcome the distaste for some part of the work in order to accomplish the whole, or to develop those bodily rhythms in which we are deficient; but that subject which is a potential pathway of the student to a deeper understanding should be, I think, his own natural path along which he is drawn as rivers are drawn towards the sea. He will meet plenty of obstacles, need plenty of patience and resolution in order to get any distance, but it should not be primarily a subject to which he drives himself or is driven, but one to which he is beckoned. There is, of course, no guarantee that the study of a craft in this way, even sustained over some years, will in fact develop the maturity I spoke of. A craft, like any other subject, can be treated as a superficial relaxation or an essay in learning a technique by those who are not prepared to give the whole of themselves to it, but it has a rich potential.

In order to enable inexperienced students to make their choice, the physical response to the material and the way of working can be tested quite quickly by having the various craftrooms open for students early in their course to explore in the presence of an observant tutor. If for some hours they move round in

groups, or casually as their own choice dictates, getting some experience of handling the materials and the tools, and seeing more advanced students working, the combined assessment of their responses and the tutor's observations will usually direct them aright. I believe that we tutors have a great deal to learn about the observation of movement from the Laban techniques similar to those used in industrial "Time and Motion study," and from the interaction of movement and character.

I am sure it is most important that this preliminary period should not be occupied by doing a set piece of work with each of the materials. The intellectual and aesthetic problems involved in answering a specific task of this nature demand a different attitude of the personality, one which is directed, concentrated, and bent upon a particular end. This makes impossible a relaxed awareness open to all the stimulus of the situation, which is the best state for capturing the elusive responses on which we have to rely in these difficult choices. So no task should be set the students, simply a suggestion made that they should enjoy and explore and handle tools—in some cases, they will have to be shown specifically how to handle certain tools—and, above all, to get the 'feel' of the material.³

Having chosen her craft, a student should pursue it for some years. This is not to suggest that the teacher trained thoroughly in one craft is never to learn or practise another, but that it should not be demanded of her within a short training. Being rooted securely in the traditions and practice of one craft, in a knowledge of the relationship between materials and method and the finished product, she will much more rapidly appreciate the qualities of the materials and methods of another craft. Provision for the further in-service training of teachers must be made where they can acquire new skills.

Nevertheless, if two conditions are fulfilled I believe that teacher and pupils can embark on a new craft together, with the teacher saying frankly, "Look, I do not know any more about this than you do. You want to do it, I am willing to try, so let us explore and share our knowledge." But even this approach will not get farther than 'exploring' unless the teacher herself is willing to find a master, and develop her own skill in the necessary techniques. The second condition I spoke of is that such a teacher must already have the confidence of her

³ I had discovered this by experience, and then later read that it was the method used at the Bauhaus.

children, built up through their earlier respect for her skill in some other sphere of education. Makarenko⁴ has written of the demand of adolescents for skill in their teachers, their contempt for the inept, and though I think he underestimates the unfortunate effect on children of a skilled but unsympathetic teacher, there is certainly truth in his words.

Such experience in craft as I have described will, I think, be much the same whether the student pursues it for her growth and delight, or is intending to teach it to older children. That this *delight* in it should be kept alive is obviously most important for both. The teacher of older children—as well as her other studies in drawing, painting, and so on—must in addition have a fuller knowledge of the history of her craft than is necessary for one who is not going to teach it, and she must have covered the aspects which are most educational and most practical in school. She will, of course, need specific help on how to present the subject to larger classes, in the introduction of rational steps, in developing the subject, and in the making, the choice, and the care of equipment.

Another aspect of her craft which her training college should surely give her is the sensitive and sensible use of it within the setting of the whole, the thoughtful placing of carvings about the house, the choice and arrangement of food, selecting flowers and plants for the pottery which is produced, the choice of garments or furnishings made from, and accessories to go with, the textiles. Making chosen things by hand then fits in, not as an arty-craft activity practised only for its own sake, but as a normal part of good living.

If it is accepted that the practice of a craft at adolescent and adult levels involves not only the using of certain techniques, but the development of a certain attitude to work and to life, then it is obvious that no one except a craftsman can teach a craft. This will seem to certain Oriental and African peoples as too obvious to be stated, but the practice of a great many training establishments shows that a desire to bolster up the student with an accumulation of facts has in the past resulted in a course of training which is made up of too many snippets. In such a course even "craft" is interpreted as small bits of various crafts—for instance, a term of bookbinding, a term of weaving, etc. I think it is more valuable to find variety in the closely associated parts of one craft, such as spinning, dyeing, and

⁴ *The Road to Life* (Foreign Languages Publishing House, Moscow).

weaving, where the final fulfilment depends on having created the right yarn for the finished cloth; or such as wood carving and the gouging of wooden dishes, perhaps along with carpentry, which illuminate each other, and which offer work either mainly for use or mainly for contemplation. Fortunately, that superficial and destructive view of crafts, which relies on the appeal of novelty rather than the satisfying experience, is now recognized as disastrous.

The craft teacher's job lies within the complex of 'art and craft'—the whole network of the visual and plastic arts—which again lies within the complex of 'the arts,' extending to poetry, drama, music. It is fundamentally important that the training of a student should have the stability and purposefulness of an organic whole, within which individual outlooks will, of course, differ. It is no use straining for a relationship, say, between mathematics and painting, or even music and painting, before the firm core of the relationships between the useful and contemplative⁵ or the abstract and representational sides of art and craft have been explored. Therefore, the craft teacher must explore other aspects of art, and the art teacher practise a craft, and I believe they must be trained together to share in that exploration, and have a common basis of experience. The ideal would be the 'art-and-craft teacher,' and this can be achieved where the training is of a reasonable length. Perhaps the best art teachers and the best craft teachers are different people, with slightly different temperaments; these are still different facets of one activity, and we shall be better teachers in so far as we can draw on both experiences.

After an excursion, or a shared experience of visual delight, or pondering on a recent experience, the children of eight or eighteen will want to interpret it, to express and describe their reaction. Some may do this best in poetry or dance, and a teacher with such a range of appreciation is three times blessed; but within the range of subjects we are considering some may wish to paint, some may be inspired to carve, or even to weave as a result of it. The more one teacher can hold such activities within her orbit the better, but the first essential is to know one craft so thoroughly that it can be adapted to different children and in different situations as a mode of education. In addition, the production of a drama or the celebration of a

⁵ I use these terms to designate facets, not hard and fast divisions of the subject.

festival, where the whole is greater than the parts, can call on all the arts to make its appeal to all the participants.

While art, without losing its essential nature, may profitably be linked with biology, with history, with the domestic sciences, and can give a great enrichment to such courses, my own experience is more of its link with the other arts, in a college training teachers for primary and semi-general secondary teaching, but with a bias towards the arts. In this college the productions of plays or operas, or the preparation for recurring festivals, was not simply a recreation or an extra added to the curriculum but the very mode of education itself. On one occasion the whole college stopped normal timetable in order to give a whole day to the study of T. S. Eliot's *The Waste Land*, under tutors who had been preparing themselves intensively. This study involved researching in anthropology and primitive religions, seeking for evocative analogies to passages of the poem in music and the visual arts, reading and rereading the work itself, and finally, in the evening, interpreting it through its own direct speech, and through dance and drama. This experience drew the whole college together, and was undoubtedly as truly educational as any formal lecture.

Some of the students at the end of such a training were able to take a theme such as Seashores, or one weighted with religious significance, such as Holy Week, and through discussion and relevant study, lead a class of young adolescents to interpret it in many different media—in writing, in dance, in painting, in drama. Although specialist teachers are very necessary at the upper levels of the secondary school, this shows the advantage of the one teacher with varied interests taking the same group for many hours in the week, for several related subjects.

The training of a teacher who is a craftsman or craftswoman in her own subject, and yet is capable of seeing these relationships within a larger field, is no easy matter. I have suggested that the understanding of other people's specialism comes more easily and naturally by living together with them in a residential college. But this is apt to lose the very features which make it valuable if it becomes too large, and herein lies the value of grouping art and craft with literature, drama, or dance, or with the domestic subjects, housecraft, home-making, in a modestly sized college where the relationships can be worked out in practice. Even then, there cannot be many craft specialists in a college of a reasonable size. I do not think this matters so much

as having the right kind of specialists for the grouping considered. Obviously textiles and woodwork are, particularly valuable specialisms in a college with a housecraft bias, and sculpture and pottery are perhaps the crafts more easily acceptable to painters. But that the lecturer should be alive to the great traditions of his culture, able to relate his own subject to literature, archaeology, anthropology is more important than the number of crafts he can teach.

Methods of teaching common to academic subjects, which are often taught in education lectures, are of limited application to art-and-craft teaching. So some at least of the educational work must be taken by art-and-craft tutors. Their own early approach to the subject teaching may itself provide good examples of class methods.

A complete division between the specialist study and education is only possible where a craft is being pursued for the student's own development, not for teaching.

Students will be stimulated to seeing familiar things afresh if the specialist staff are ready to light up any topic with the enthusiasm of their own devotion. An excellent introduction to such a course is some form of environmental study, in which the relationship of specialist studies and their reinforcement of one another can be realized *in practice*. The students must also be taught to help the children to gain the most vivid experience from any study or project, by drawing their attention to any exciting visual aspects as well as the intellectual content in the subject studied. Delight in pattern (perhaps in making a shell or stone border as well as in studying the flowers) should come into the making and care of a school garden as much as knowledge of soils and plant-care does. Children move rapidly from the state of wonder to the thirst for knowledge, and the teacher must be prepared to let each child be absorbed by, and record, his particular experience in his own way. Most young children are responsive to the general atmosphere evoked by the teacher, and will happily adopt the energetic digging frame of mind, or the inquiring and reasoning, or the recording frame of mind, according to the group activity. But there will always be some suddenly overwhelmed by the excitement or strangeness of the worm overturned in digging, or absorbed by the beauty of a butterfly settling on a leaf. They must be allowed to live through their experience of that moment or that half-hour without being nagged into rejoining the group activity. Perhaps early educa-

tion can do no harm greater than systematic destruction of the capacity for such absorption. It is from the ranks of those who were allowed to indulge in it, who later add the discipline of intellectual thinking, that our great scientists and artists come. The imaginative power dies if it is not exercised; so great a scientist as Darwin regretted this in himself. Students who have for years worked under examination pressure before coming to college will need to be given time and opportunity themselves to regain the sense of wonder, to practise the contemplation which comes in the cycle of production of a work of art or craft, and to confirm and strengthen their belief in intuitive judgment, before they return to the responsibilities and pressures of the schools. If we do not, during their college days, give them occasion for these experiences—more important than any facts or techniques we can teach them—then they will probably never find opportunity.

I have been speaking up till now of the type of training in which 'subject' and the study and practice of education are pursued together over some years. The narrowness of teachers trained in colleges specializing completely in art or physical education or domestic subjects is now often being overcome by adding these more concentrated courses as 'wings' to general colleges.

In addition the later in-service training of teachers offers them a further training after some years teaching. This last may be of two types; it may offer teachers an experience in a new subject to add to those they have, or it may offer them literally a 'refresher' course aimed at stimulating them with fresh experiences in their former fields of study and in education. I believe that because teachers are usually scarce, and because of the unwillingness of Governments to finance education sufficiently, this opportunity is not fully used. A stale teacher is worse than useless. Her attitude to her job is sensed by the children and nullifies education. (Many countries, however, do offer excellent holiday courses which mitigate this.) When a teacher is mature and has gathered a fund of experience she can benefit immeasurably from the opportunity of a year in which to sort out and re-assess her ideas, in the stimulating atmosphere of other mature people and of adventurous educationalists.

I have left till the last that type of training which has been considered the most thorough education for the art and craft specialist, a full-time course of up to four years at a college of

art or art department of a university, followed by a period, probably a year, at the education department of that same institution or at some regional centre. The longer training gives opportunity for deeper study, and the student-teacher need not follow a course less demanding than the intending designer or painter in the same college, but only one with a broader basis.

But I think it is generally held that in the past, in Europe at least, this course has tended to be too narrow, concentrating exclusively on the practice of art and craft and on the teaching of art and craft. Such a training—especially if it is in a separate building—tends to shut off the student from wider aspects of his culture and from the other arts which illumine and interweave with the visual arts. For instance, the study of wall painting does not make sense without a concurrent study of the buildings whose walls provided the surface to paint on, but these same buildings often owe their shape partly to the ceremonies or dances to be performed in them or to the need to provide the best setting for the music which might be part of the whole ceremony. Similarly much sculpture must be related to architecture, and the study of embroidery and jewellery to the social habits which created a need for these in each age. But, more important, if an art student does not study history, literature, drama, and perhaps art of movement or dance, he is missing facets of his culture which would extend him as a person, as well as illumine his own studies. In addition he will find it more difficult to fit in with his colleagues on a school staff since he does not share their general background of culture. Therefore the art and craft for which he is responsible is much less likely to exert its maximum influence on the school, such as improving the material environment, and contributing to the drama, festivals, and other studies in which the arts combine (which is something very different from merely illustrating subjects in literature or history, which is too often all that is meant by integration). Colleges of art in England which run this one-year training course have become aware of the dangers, and courses including more general studies—some literature, history, and drama—are being devised. Some schools of art in different parts of the world are part of, or have a close association with, a university. If this does not result in a too academic approach to the practice of the arts such students can only gain from the intellectual stimulation which a univer-

sity gives. The grouping of colleges concentrating mainly on their own disciplines but centred on a university core, such as we find in the American campus, may be the ideal, so long as the size is not increased indefinitely by the elevation of any and every subject to university status.

The student pursuing his art studies in a college of art has the advantage of contact with artists, designers, architects, etc., through others working in such an establishment, and he has a longer time for his own specialist studies. The choice of subjects in his course should be dictated to some extent by those which it is possible and profitable to teach in school, and this implies an earlier decision towards a teaching career than is often made. Such a student will want to specialize in one aspect of his art to an extent which is satisfying to him as an artist, but he should ally with it several other aspects or arts which will be equally useful in education. There are undoubtedly some excellent teachers who teach drawing and painting and nothing else, and who, through their own enthusiasm, evoke in nearly all of the children the desire to paint. Such teachers may paint alongside the children and create something like the artist-apprentice set-up, with an atmosphere of serious work which is most desirable so long as any suggestion of the master's style being the only right one is avoided. I believe that there are certain artists for whom these are the only conditions in which they could become teachers, and we must be grateful if their being teachers brings so many children in touch with values and standards which they would not otherwise meet. *Above all, we must guard against thinking there is only one good kind of art teacher and one right kind of training.*

Just as there are examples of the occasional painter-teacher whose own interest lies in painting and who is more likely to arouse an enthusiasm for painting rather than for a craft, so there is occasionally a craftsman whose drawing and painting are not fully developed, but whose craft presents individual aspects and sufficient depth within itself to attract different types of children and lead them along different roads. I do not suggest that this is ideal but, provided such a craftsman has a wide knowledge and appreciation of the history of art, I am sure that a person deeply immersed in, and educationally alive to, the possibilities of his own craft has more to give than some one who has a superficial knowledge of painting and several crafts.

For those pursuing a college-of-art course with a view to later training for teaching, I would strongly suggest that an interest in children is stimulated during the latter part of their course. It may be argued that this is just the time when they most want to be immersed in their own studies. One solution might be a few intensive weeks with children visiting schools and discussing education, perhaps two-thirds of the way through the course. When it comes to the training year such a student, in addition to making further contacts with children and studying education and psychology, will probably need fresh approach to art and craft, more exploratory, more like that of the child himself. This can sometimes be done by the introduction of unusual and stimulating materials; by a survey of the neighbourhood, looking afresh at familiar things, and using that as an educational springboard; or perhaps by taking up a completely new art with children, such as making films.

A wide knowledge of the history of art is surely an essential for all teachers, and the great improvement in the variety and quality of reproduction and of colour transparencies makes it much more possible to introduce the children to their heritage of the world's art than it was a generation ago. No matter how competent or enthusiastic the teacher is about his own method and style of working, he must above all be prepared to accept the natural variety of the work of young children and adolescents, and he must have a width of interest and knowledge to guide the children to those types and styles of art, whether primitive or classical or contemporary, likely to serve as an inspiration to a young person working in such a mode. For Europeans this might mean showing the children reproductions, and wherever possible real objects, of such cultures as Scythian, Minoan, Etruscan, Gothic as well as Renaissance and post-Renaissance work, and drawing on a great variety of contemporary art forms through reproductions, visiting exhibitions, and obtaining loans for any adolescent drawn to a particular artist or style. At the adolescent stage one might almost say that education is finding one's own 'master' and following him. The art-and-craft teacher may not be able to continue to serve as 'master' to every adolescent developing his own style; but he can help him to find, and pursue, and be fired by whatever touches off his enthusiasm, and so lead him towards the best art and craft of the age to which he responds.

While the history of art has often played far too small a part

in teacher training, the problem is to cover the range of civilizations which has been opened up to us, while leaving sufficient time for the other studies which the student must pursue. Some universities give a course which is balanced between the two, but not so many students are intellectually and temperamentally fitted for such a course. I myself do not see how the whole history of art can be covered, but if only the art of that continent or that civilization to which the student belongs is studied then he is cut off from much that might enrich his life, and one of the great modes of international communication is being neglected. For in response to the art of another culture there is no consciousness of nationality or race; we meet at the deepest point of experience, and sympathy can flow from that moment into other less accessible channels. Probably the most practical approach is for students to start, as is natural, with the art of their own culture, but to make some special studies of such other styles and periods which specially appeal to them. A whole group, with only the barest outline of the history of art, can then all gain by sharing the specialized studies of each of its members.

It is essential that schools should have not only reproductions of the great masters and the contemporaries, which are excellent in their way, but also original works of art and craft. The particular effect of 'real pictures' about the school is incalculable, and there are few reproductions of craftwork which can even hint at the full qualities of the originals. A few objects of intrinsic worth can give children an experience of quality which they can get in no other way. Where authorities are willing and able to spend money in this way many schools or training colleges can share in the purchases by some system of rotation. At least one University Institute of Education in England has established this excellent method of putting standards of quality in front of its students and lecturers in training colleges—a much more potent one than preaching or exhorting. The collection, constantly being added to, includes about eight good examples of West African pottery and weaving, packed in a specially fitted case to go round colleges for display and handling. In the same way a set of vegetable-dyed wool samples and pieces of weaving and knitting by good craftsmen stays in the college some weeks at a time, and enables the students to *live with them*, which is more profitable than the brief sight of such things in a crowded museum. A comparatively small outlay in

money has inspired hundreds of future teachers and given them standards of real craftsmanship.

Once the necessity has been realized, for children to live with and actually to handle, as they cannot in most museums, objects of quality, other ways will be found of providing these, through gifts from practising artists or craftsmen, or from collectors, or work produced for the community good by advanced students enjoying bursaries or fellowships. The chief thing is that we should realize the children's needs, and compensate for the lack of such satisfying things in our industrial cities and well-to-do suburbia. Children and students who have grown sensitive through familiarity with quality will find that they are unsatisfied without some things of enduring excellence in their own homes.

In turn the artist's need of an appreciative public will be met. The gap between the rich and the poor and between one culture and another can be lessened by this sharing of a tiny part of what should be a common heritage.

It can be argued that the training of a teacher goes on all her life, and it is surely right that we should be concerned to work for a fuller and better training. But, faced with the world need of good teachers, it is pertinent to ask what is the absolute minimum that an art-and-craft teacher must get from her training?

Such a training should develop the innate sensibilities of the student by making her more deeply aware of the infinite variety and the underlying structure of the natural environment; not just the *appearance* of things but a searching for the principles of growth of living things, and for the constructive logic behind man-made things.

It should give her confidence in her own creative ability, and the encouraging experience of making successfully, followed constantly by the challenge and demands of the material to make better. It should give her roots in a conviction of the importance of the practice of her art. The study of art past and present should illumine the nature of artistic activity, and help her to arrive at, and assess, principles on which the art of children can be nurtured.

I suggest that this may be accomplished by specific work on the following lines:

- (1) A training of the senses through practice in arriving at finer

degrees of discrimination, linked with a realization of the feelings evoked by these experiences.

- (2) The study of pattern through observation of nature, through making patterns in many materials, and linking this with other forms of pattern as, for example, in dance; a study of pattern in ornament, and of the links between pattern-making and composition of pictures.
- (3) The study of representation in many forms, not simply drawing observed objects, but finding visual equivalents which represent the meaning rather than the appearance.
- (4) The stimulation of the imagination through handling and exploring the possibilities of many materials; through the challenge of solving problems of construction; through situations evoking a sympathetic identification with others.
- (5) The continued study of one craft or one aspect of art to as deep a level as possible.
- (6) Studies in the enjoyment and understanding of the art of the past; not simply 'art history,' but the presentation of the work of any period or any artist by whom the tutor or a student is excited, followed by deeper study for understanding. Some students will make the discipline of the history of art a larger part of their course.

But all this will be largely worthless if it does not culminate (and this above all cannot be planned for) in the personal discovery of art as giving form to the random, unorganized, sometimes chaotic experience in the student's own life. For it is the function of art to make life bearable by giving *form* to the overwhelming chaos of experience, and to preserve and convey to others the delights of moments of illumination.

Interlude

A Walk in the Parkland

THIS IS A PERSONAL ACCOUNT OF HOW SOME OF THE IDEAS discussed worked out in practice with a group of twenty students during one afternoon at the beginning of a training-college course in Northern England.

Imagine a group of students drawn from many different districts intermingled with a few from other countries meeting in a building which is to be their working home for several years. They are strange to one another, and the staff are even more strange to them. Many of them are uncertain what sort of behaviour is expected of them, and all are anxious to do the right thing. Their surroundings are quite unfamiliar to them, and perhaps completely different from anything they have known before. The college of which I am now speaking was housed in an eighteenth-century mansion with later additions, and had extensive grounds of great variety, formal gardens, parkland, lakes, and woods. Opportunities for getting to know one another were provided within the social framework of the first few days, but it seemed profitable to help the students to feel at ease and accepted in the physical surroundings of their new home, and to help them to look forward to their course with knowledgeable anticipation.

The first meeting of the new art-and-craft group was therefore a walk in the grounds, exploring the bounds of the estate, a stretch of parkland close to coal-mining country. It was natural to stop at strategic points to look at the beauty of the house and the landscape-gardening of the grounds. There was no insistence that the group should stay together, but whenever there was a halt to admire a view of a distant church or a particular formation of the roots of a fallen tree, a little knot would gather together in discussion. A fascinating contrast to our rural surroundings was provided by pit-tips and open-cast mining just outside the boundary. This, also, I think, saved students from an over-precious remoteness from working-people.

I suggested that we should bring back from this walk anything easy to carry, which was interesting in colour and texture. Since it was autumn our finds included not only the late flowers, the coloured leaves and berries, many different sorts of bark with moss and lichen, but also fungus, pebbles, snail-shells, and a great variety of feathers. Each one of those finds offered an opportunity to talk about the wild life of the grounds, and touched off some interest—in birds, in fishing, in architecture, in gardens—which helped me to get to know the students quickly, and perhaps helped the students to feel that such former interests were encouraged and could contribute to the life of the group. So I hoped to draw out their own enthusiasm, and to give respect and appreciation to their former interests in order to bridge the gap between the old and the new life. In addition, many of the finds led forward to talking about the course to be pursued, how the berries would be used for dyeing, how pots could be made to hold different types of plants.

I hoped that this devoting of half a day to a pleasant walk, productive of nothing more tangible than the enjoyment of the surroundings and perhaps the quiet scrutiny of a snail pulling itself along a wall, would introduce the impression that in a crowded course which necessarily subjects the students to considerable pressures, art-and-craft was a subject which could not be hurried, and which involved pausing to look with great intensity at simple things. As the English poet, W. H. Davies, has said :

What is this life, if, full of care,
We have no time to stand and stare?

When the group afterwards gathered in the studio and laid out their treasures the variety offered by the immediate surroundings of the college was apparent to all, enticing them to further exploration. But the found objects were now used in a kind of game which embodied a specific piece of sense training.

The aspect of colour was the most immediately attractive, and all the red objects of whatever kind were gathered together, all the green, all the yellow, and a range from pure black to pure white was collected, and these were laid in a row. Then a group was made of the patterned objects, showing the natural patterns which occur in nature: the patterns which arise from the structure as in the veining of a leaf; the patterns which arise from ways of growth, as in the leaves spreading to capture sun-

light, and the petals of a flower to attract bees; the patterns which arise from the need for camouflage, such as the speckles of a bird's egg or the bars on a bird's feather. Next a group of all the objects whose most exciting quality was their feel to the fingertips was gathered together, and a range of textures was suggested from smooth and shiny to rough, and from very soft (the down on woolly leaves) to very hard (crystalline pebbles). Microscopes were available now and later for studying structure and texture more closely. After time had been given to pore over and stare at and touch and discuss these series, the day ended with pairs of students arranging flowers and twigs in a vase, or shells and stones on a sliver of bark, or moss and toadstools on a tray, an arrangement not on the previous more scientific lines, but simply a grouping of colours and textures which was pleasing and satisfying. So I hoped to suggest that one can move easily (as young children do) from a scientific to an aesthetic appraisal. For teachers concerned with educating whole persons rather than teaching a subject this is essential. Each of the "exercises," as they might be called, opened up studies which were pursued in the following weeks. For instance, the inspiration of pattern in Nature was worked out in making patterns in paint, ink, and a variety of materials, in making studies of patterned objects carefully observed. Associations mentioned by the students included patterns of circular dances and patterns of song, especially the 'working songs' used traditionally in finishing cloth, and the sea-shanties we sang together in the rhythmical preparation of our clay. Since we had observed that there were considerable gaps in the range of textures, all the students later spent one afternoon searching for textured objects and trying to fill those gaps and to arrive at a smooth gradation. Sitting round in a circle blindfold, the students passed from hand to hand a wide variety from cold hard to warm soft objects, and then each sorted by touch a narrower range, developing more acute sense perception. The colour groups also led on to further exploration of the extraordinary variety which may be found under one colour name, when some weeks later a gesture of greeting was suggested for some Russian visitors we were expecting. On that morning the students brought anything red which they possessed to one corner of a large room, already hung with red wallpapers and red curtains, where all the red flowers which could be found were arranged in a clear glass vase. They pinned or laid down their red objects—gloves, slip-

pers, scarves, books, plates—against that part of this background which made a pleasing contrast in reds, and the whole effect was invigorating and exhilarating beyond belief, a blaze of colour to bask in for one day.

Another range of work arose from the distant views of the house glimpsed on that autumn afternoon. There was much discussion of the best points from which to draw or paint it, and the students were encouraged in the following months to make many studies both of the inside and outside of the house, (of the intriguing angles of the staircase or the pattern of drain-pipes on the back wall) linked with more theoretical studies of the history of its period. When some of the finest eighteenth-century rooms were being redecorated a group of students elected to work with me in more intensive study of that period, including visits to historic mansions of the same century. They made precise measured drawings of the patterns of the plaster-work of ceilings and wall details, and coloured them in alternative schemes. Later some of them helped the workmen-painters to carry out the chosen scheme. When other parts of the house were redecorated in turn the students were brought into discussions of colour and fabrics, and when a new group of bedrooms was constructed the students chose not only the colour schemes but the furniture. Where the course covers the necessary studies it would naturally be much better to *make* the furniture and furnishings.

It is my experience that it is useless to think students or children can be trained later to make wise choices in their homes and in public buildings simply by a course in the manipulation of abstract forms and colours, or even by little models of rooms, still less by lectures on good taste. These may be used as talking-points, but it is only by *manipulating* the elements of our surroundings, by studying the very different effect of areas of colour in different lights, by arranging and *using* furniture that wise choices in design are made, and the keenness of public demand for well-designed objects is sharpened.

That walk, which served as an introduction to the course in art and craft, and others like it, also provided opportunity for exploring the raw materials of the parkland: for pointing out signs by which the presence of clay underground might be detected; for discovering how many types of rushes and grasses could be found for weaving lampshades and beach hats; for collecting of branches for whittling, whose natural conformation called up

images (an introduction to woodcarving which we used with the children in schools).

So most of the activities pursued through the year did in fact arise from real experience in the surroundings, rather than from an artificial stimulation produced within doors—which is also necessary at times. This attitude to the surroundings was embodied in the main studio, a former glass-house, one side of which could be thrown open to the garden in fine weather, but which presented outward-looking views even in wet weather. So the inspiration of the world outside was brought into the house all the time, just as the students sallied out of the house when the moment seemed ripe for it. This attitude should surely be carried over into the schools by these teachers taking their children out much more than is the custom, and deriving incentive to study from things seen and questions raised by the world in which they live. (The architectural conception of many contemporary schools embodies a different idea of education. A series of closed boxes implies that education goes on in artificial conditions inside four walls. But an inspiring building, even an adapted one like the one described, not only ministers to education but may be an inspiration to it. This is true of the best new buildings.)

Admittedly that was a varied environment, rich in history, providing farm, parkland, and mining-country. Such beautiful surroundings—notwithstanding the drawbacks of living in an adapted mansion—must, over two years, influence the sensibility of students to proportion and space and the interrelation of house and garden, and imperceptibly give them standards which make them impatient, as all of us should be, with the ugly school buildings which counteract so much of our education.

PART THREE

I

The Small Workshop

THE SMALL WORKSHOP STANDS MIDWAY BETWEEN THE individual craftsman and larger-scale industry. This is perhaps the oldest and still most widespread organization for the practice of the crafts. The Abbé Breuil suggests that there were already workshops with division of labour in the Old Stone Age, both for chipping the stones and for painting the magnificent animal scenes on the cave walls. It seems a very obvious way of using different human talents to the best advantage, and if all the aspects of the work are covered it is a most satisfactory condition for apprenticeship in a craft. The studios of the famous painters of the Renaissance in Europe were of course of this type, and many studios combined art and craft, goldsmithing and painting, or painting and sculpture, under one master. India for many centuries maintained standards of exquisite workmanship and design in perhaps a greater number of crafts than any other country. It is worth glancing at the organization which produced this. Coomaraswamy writes:

It is noteworthy that in many crafts in India the final product is a result of the division of labour. The craftsman is not often his own designer. The cotton printers and embroiderers do not make their own wood blocks: the painter draws on the cloth or metal the necessary outlines for the Chamba embroiderer or the Ceylon damascener. Brocade patterns are not designed by the actual weavers. The Jaipure enamels are the work of at least five persons—designer, goldsmith, engraver, maker of the enamel, and the enameller. Where there is no recourse to an “artist,” it will be found that most of the designs are traditionally inherited, and so constant as to be familiar to every workman, and there is little to distinguish the work of one man from another. But the designer is always familiar with the conditions of the craft; there is no division of labour akin to the industrial distinction and separation of the artist from the craftsman. In many cases also it happens that the best men are at once designers and themselves skilled in many crafts: in Ceylon, for example, the same man may be at once an architect, jeweller, painter and ivory carver.¹

¹ *The Arts and Crafts of India and Ceylon.*

The salient points in this for us to-day are that the designer is always familiar with the conditions of the craft, and that even with division of labour, individuals or groups are not separated as in large-scale industry but work together.

I have suggested that the greatest satisfaction to the maker comes from having the whole process under his own hands. But perhaps the most perfect work in *complex* crafts comes from each man specializing intensively in the job he does best. Perhaps Orientals, being less individualists than most Westerners, get their satisfaction in the perfection of the communal product. Certainly this was the tradition in Western churchbuilding, too big an undertaking for one man, where craftsmen in carving, stained glass, and mosaic could work together as complete specialists under one master. The earlier idea of the cathedrals growing almost spontaneously under the hands of a group of dedicated people has had to be modified, and records of the great master-architects have clearly established that they were in control of the general plan. Obviously the individual craftsmen—especially perhaps woodcarvers, and illuminators—had a great deal of professional freedom because their personal humour emerges clearly. There has in our own day been a return to this organization of a group of craftsmen working within the masterplan of an architect, which will be discussed in the last chapter.

The small workshop is certainly a suitable unit for work in nearly all spheres of handcraft to-day. Up till the mid-eighteenth century the fact that water and wind power were available all over the country, as well as the difficulties of transport, kept workshops scattered. When power became geared to coal and steam, industry tended to concentrate near the coal, but also to concentrate in large units round the engines of conversion of coal into power. Now that electricity is widespread there is no need for that. The small workshop has a source of power which can be tapped directly, and away from large concentrations of industry, and the family can be maintained near the workshop.

The artist-craftsman has had to be a strong individual in order to maintain values alien to his times. But it appears that the future of crafts lies in more co-operation. It allows the craftsman a reasonable responsibility for the designs and the quality of workmanship. It permits the craftsman of initiative to contemplate setting up his own workshop, perhaps with skilled colleagues, or the younger man to find congenial work,

and to have some say in the policy of his workshop. The small workshop can grow *organically*. It does not need the multiplication of machines, each one necessary to feed another to pay the overheads. The members will have to work very hard, but not the killing hours often demanded of the single craftsman to keep his workshop going, and absence of one member of the group need not hold up production. But, while it must have adequate machinery to cope with any drudgery involved (as in washing or pugging the clay in pottery), and to produce sufficient quality of material to keep the hand processes served, that machinery *must* be flexible as a tool, and it must not be so expensive that it is only justified by turning out large quantities of stuff, or dictating the pace of work.

This question of size has been sensed to be a critical one. The Leach Pottery, whose excellent craftsmanship and definite aim to produce good stoneware at an extremely reasonable price is well-known, was deliberately limited in size (page 14).

Most people running workshops or small-scale industries tend to expand their industries according to demand, thereby changing the intimate nature of their workshop and probably the nature of the pots they are making. We have rather limited the size of our workshop deliberately, and if demand is too big there will come a time when we shall have to refuse it unless we are going to expand that workshop into something bigger. At the moment we deliberately keep it down to a certain size.²

It is necessary to make a distinction between a small industry and a craft workshop, not on size, but rather on the relationships between the workers, the degree of responsibility shared, and the intention of the work.

While I believe that it is difficult for a committee to run a small-scale industry, since one of its advantages over its large rivals is that immediate decision can be made and implemented, whether to have *one* person to run it, or a team, surely depends on personalities.

This comment³ from a wide experience has so many relevant points that I will quote it in full:

If there is a genuine demand for a certain article they put up a factory, and the whole aim is to make as much money as possible. I don't think there is anything wrong with this attitude, but in the meantime the quality of the product often becomes

² David Leach, at the Dartington Conference.

³ Kurt Hentschel.

of a secondary importance. Now, in my case, as an industrial designer, as a textile designer, I happened to be very fortunate in starting, after I left my university, at one of the largest textile mills producing rayon dress materials in this country. I had to design for 2000 automatic looms, which you will agree as craftsmen is very difficult. But it wasn't for that reason that I left. I discovered that so much time and so many economic considerations are involved in making changes there, however small, that they will take many years to achieve, so I felt that I might have a much quicker and better chance to improve things as an individual. I left the organization and started off with one single handloom. I soon discovered, however, that it was extremely difficult to justify my own work if I did it only in one certain direction—that is, purely the pleasure side of it—and I discovered that economics played a very great part in the whole set-up, so I had to select a team to work with.

I don't think that one needs to be a dictator. It is very important that one should have a definitely clear vision of one's aims and any aims which the team can add to that. One must have a clear policy as to what one is going to do. When I selected my team—and it grew very slowly, two, three, four, ten, twelve, etc.—I had to wait quite a number of months, and maybe years, to get the right type of people to work together, because we all must have something in common. We had to be ready to work any hours in order to improve an article or produce a better design.

Returning to economics, we discovered that even working hard we could not really produce and sell the actual fabric unless a reasonable price was paid. We had to then find ways and means to produce the same article twice as quickly, and in that way we could produce that yard of fabric at less and less cost; we passed this benefit on to the purchasing public.

It is also very important that the article you are producing should be of a nature where mass-production cannot take it away from you quickly, and reproduce it in a much cheaper quality and at a much lower price.

Here is a man who wants to do things, wants to work out new ideas satisfying to him, and feels that 'dead weight' of the financial commitments of the large-scale industry. He finds he can do what he believes in only in a small, more adaptable workshop. He sees the need for clear aims, but he is prepared to work with a team, and to include their aims. He selects his team, and is prepared to wait for the people who can fit in. I am sure this is crucial. He also makes the point that a small workshop in an industrialized country can only compete if it is working on a different range of products from mass-production.

The same speaker faces the problem of keeping up output

sufficiently through small machines to keep real handwork going.

We have to produce enough marketable work (with the help of machines), so that we can get time for really fundamental handwork, time to spin a yarn by hand, to weave cloth out of a handspun, vegetable-dyed thread, if not for sale, well, then for our own happiness.

It has been suggested that in the rapid advances in machinery during the Industrial Revolution there were some ingenious inventions rapidly superseded by the wish for greater speed, and discarded as power increased to cope with bigger machines, which would still be useful for the handworker or small workshop to-day. The same weaver speaks of his experience :

When I put in modern electrical equipment (to our workshop) I had studied the old spinning-wheels well, and I built my own spinning-wheel (at the time of that original invention electricity was not available of course). In this way I got a new type of spinning-wheel, a small-scale wheel, well fitted to experiment and not too slow to work. I believe this kind of development is very important. The development of small-scale machines standing between tool and machine, is one of the most necessary things we craftsmen have to do. I am not only a textile engineer, but a handspinner, a handweaver, and hand-dyer at the same time, so I know both sides. Only my feeling for material, only knowledge of wool, made it possible for me to build a new type of small machine. It is our task as craftsmen to do this.

The description of this enterprise underlines the fact that it is no use a craftsman setting up as an individual or in a small workshop unless he has a very practical bent, an inventive mind, and also an understanding of the machinery which will be useful. A small workshop often cannot afford a full-time engineer, nor the lost time in waiting for an engineer called in to repair, so the craftsmen themselves must be prepared to cope with such machinery as they use.

But in this matter of inventing and adapting machines (possibly from old prototypes) for small industries and workshops I believe a Government or central body could well employ an inventor and workmen in close touch with the workshops to do this. Large-scale industry has in the last few years produced small models of agricultural machines for the garden, which combine many functions by adaptable parts and so lessen labour. I have something similar in mind, but some person or society

would have to interest industry in the craftsmen's real needs.

To return to the question of the directing of the work; surely whether the workshop has a director or operates as a group of equals depends on its make-up and on personalities. There have still into our own day been 'master craftsmen' who gathered round themselves students and helpers. Mrs Mairet was one such, vivid with vitality, and here is what one of her students, Marianne Straub, famous industrial designer, says about her:

Having been taught in Switzerland the art of handweaving, and having learned at a famous Yorkshire Technical College something about machine manufacturing of fabrics and all allied processes, I came to Mrs Mairet and a new world opened out to me, that of real understanding of the yarns and colours. In those days none of the looms in her workshop had more than four shafts, and yet how alive these fabrics were. I had learned an awful lot about drafts and weaves, yet here I felt there was something new, and something vital, which should form the basis of all I had learned, and should have come at the beginning.

Both the satisfaction felt in, and the service performed by, the small workshop shine through this account by a Finnish spinner:

Hand-production has to get its effect by means of often very small, almost invisible things. First of all the spinner has to know what quality means. Next the spinner has to choose his material very carefully, consider what the material is going to be used for, what the product is going to look like, and what purpose it serves. That thorough knowledge of the material is not gained in a short time. It has to be developed out of living with the material and liking it. Special orders don't interest the bigger factories, whereas the small workshop will with pleasure accept such an order. The spinner has the advantage that small portions of raw material may be bought at a time. It has the advantage that a greater number of various blendings are possible, resulting in elusive shades, natural mixed shades, which may vary endlessly. These blends by their play and life may give hand-production its special touch.

The raw material has to be of the finest quality. The smaller spinning workshop has to put such an effort into its working that it would never pay to use a second-class material. The sensitive contact between spinner and such raw material must be a daily inspiration to the work.⁴

Perhaps the fullest and most satisfying expression of the workshop is one where each member is used to the extent of

⁴ Eva Antilla, whose handspun and dyed tapestries are world-famous.

his full capacities and contributes to the utmost of his possibilities. This workshop ideally operates *as a group*, between them covering the range which the single craftsman (having all aspects of the work under his own hands) must if he is working alone. It is a sane step, a voluntary step towards these larger units which our forms of society to-day demand. But individuals can only work together if they have a core of common aims for the future in their work. The individual craftsman and the large-scale factory are both necessary, but this group can form a bridge, an intermediate ganglion within the complex of society.

This is in developing countries a very natural way to start industries as a transition towards more mechanization, and to make a vital bridge from the handcraft towards the industry without losing the values of either, as has been done successfully in the Scandinavian countries. One potter,⁵ who has for years run a workshop in Nigeria, says this:

In West Africa, if you give advice about how to develop pottery you immediately meet the criticism, 'But what you are suggesting is a peasant industry. In the middle of the twentieth century you are suggesting that we should foster and help to create a peasant industry in a time when peasant industries are all on the way out; they are disappearing even in countries where they are long established. Isn't it better to cut right out and concentrate on large-scale industrialism?'

Well, it's not so simple as that, and I am sure that there is a place for small-scale pottery production. For team hand-pottery workshops, I am convinced, there is a future in all parts of the world. If you jump into large-scale industry, you get the kiln and the moulds and you start the production machine working, and it pours out at the other end of the tunnel kiln, and it's a terrible business to change anything.

New shapes and suitable materials will have to be worked out by each different country to suit the life and needs of that country. This can best be done in a transition period of small and varied workshops under intelligent direction, testing out products on the market before capital is invested in large-scale machinery and methods.

But above all the small workshop offers to many people a life more stimulating, more satisfying, and more responsible than bench-work in a factory ever can.

⁵ Michael Cardew.

Rural Industries

BY RURAL INDUSTRIES I MEAN NOT SIMPLY THOSE INDUSTRIES located in the country, since large factories are sometimes found there, but rather the common meaning of the term—small single workers or group of workers whose work bears some relation to their environment. These fall into various categories. The first group are those who by the nature of their work, such as blacksmiths, stone-wallers, village carpenters, and so on, must reside in the community which they serve, so that things can easily be brought to them for repair or they can go to the homes at short notice to do a piece of work for a specific purpose or situation. I do not see that large-scale production can ever completely obviate the necessity for such local men.

The second group are those who have settled in the country because of the local roots of their craft, the small woollen mills in the valleys of the sheep-covered Welsh hills; or the potters settled on the traditional clay-beds of the Odenwald mountains, where a distinctive type of black pottery has existed for centuries. For some of those the fact that their material is on the spot is the paramount consideration, but often equally important is the fact that they are using buildings which have grown up and been added to over the generations, and that their market comes partly from the association of their products with that locality. This tends to preserve the traditional flavour of their work since people value it partly for that.

The third group are those individual craftsmen or small groups whose craft, such as book-production or loom-making, might be practised anywhere, but they have for preference—and perhaps partly from their outlook on life—chosen to settle in the country, where their craft is pursued often along with some agricultural or horticultural work.

The fourth group are those who practise a craft to augment their livelihood, often during the isolation of the long winters. Such are the Shetland and Fair Isle knitters, the Harris-tweed

weavers, and the Swiss craftworkers. The very isolation of the life, which offers peculiar attractions to some craftsmen, lessens contact with each other and with centres of new ideas, with new materials and new techniques. The country craftsman, whether it is his full-time or part-time work, cannot take days off to travel to the bigger centres to keep acquainting himself with new developments. Nor can he usually be enticed out of his environment to attend courses in cities. So he may become out of touch with the market for which he caters, either through his own crafts ceasing to be in demand, as with many blacksmiths, or through the market itself changing, as with the Shetland knitters. It is not on ideological or romantic grounds that steps have been taken to meet this need. Each country needs the services of such skilled craftsmen and craftswomen as it has, just as much as those who cannot be fully employed through the long winter need the additional income which their work can bring them.

Yet such country people, whose very virtues may lie in their serious ways and more stable, and therefore less adaptable, outlook, can only be reached by some organization which is sympathetic to them as human beings, and sincerely values the best of their production. The whole world has an example in the way handcrafts were saved from extinction in Sweden.

Nineteenth-century industrialism threatened to end handcraft traditions in Sweden as elsewhere. Everything could be turned out by the factories, and buying things ready-made in the village store was easier than making them laboriously by hand. That the quality was not so good as in hand-made articles troubled no one very much. A decline set in, too, in those things which were still made in the home—the old feeling for clear colours and good materials began to disappear. Aniline dyes replaced the vegetable colouring substances, and the machine-spun yarns which were often used were quite unsuitable for handweaving. *When the old traditions and handcraft methods had been forced out nothing worthwhile appeared to take its place.* The sense for the genuine became dulled by continually seeing the degenerate forms and muddied or gaudy colourings in current industrial products. No one valued the old cushions, hangings, furniture any more. They were put away or sold for a song.¹

Just at the moment the peasant crafts were disappearing two things began to be done to rescue them. About 1870 Hazelius started making a collection of furniture and clothing from past

¹ *Handcraft in Sweden* (Svenska Hemslöjdsföreningarnas Riksförbund and Lantbruksförbundets Tidskriftsaktiebolag).

periods, and a few people who knew how to weave took practical steps by collecting old patterns, starting weaving-schools, and teaching vegetable dyeing. To begin with interest was confined to the upper classes. People either bought up discarded peasant textiles or had them copied. They filled their homes with real or imitated handcrafts. Anything that was colourful or picturesque was sought after; utility articles were left severely alone. But, fortunately, in the country parts there was still a genuine demand for high-class towelling and cotton fabrics, for aprons and shawls, for hardwearing work-clothes, rugs and horse blankets, good earthenware crockery, proper ladles, baskets, and market-bags. Handcrafts of this unpretentious type were fortunately never even in danger of dying out.

An exhibition in Stockholm, in 1897, marked the turning point for Lilli Zickerman, the pioneer of modern Swedish handcrafts. She said afterwards :

My eyes were opened, and I saw for the first time how beautiful and right the old handcrafts were. After that I could never let go the conviction that the old must be saved, and the new guided along proper courses, before it was too late.

Lilli Zickerman, with Prince Eugen, established Föreningen för Svensk Hemslöjd. This gathered solid knowledge of peasant art by making inventories and copying or adapting old patterns to make them available to peasant workers; it trained and advised workers; it marketed their products. The gains are not simply the preservation and development of traditions, but social and commercial betterment. In Sweden only 26 per cent. of the farms are big enough to support a family on farmwork alone, but in isolated communities industrial work is impossible or unacceptable, while the equipment and conditions for craft-work are usually there. But along with the commercial side had to go the social and cultural task of re-establishing the self-respect of the peasants through awakened understanding of the worth of handcraft and the richness of their tradition.

The necessity for teaching-schools was felt at once, and two types were set up, permanent training centres in some of the larger towns, and supplementary schools (*écoles ambulantes*) which remained in one place, while the peasants of that area needed instruction, and then moved on. The life-work of Lilli Zickerman in compiling an "inventory of textiles," which classified and preserved the rich variety of traditional weaves,

was invaluable. She travelled from district to district, persuading people to bring work out of old chests, to arrange regional exhibitions, and she recorded by photographs, by coloured sketches with attached yarns, with information as to technique with the date and the weaver where possible, and so the whole country, with its wide regional differences, was mapped. This collection is now housed in a museum, and is an endless source of information and inspiration.

But the organizers of the handcraft societies saw that it was not enough merely to copy old work handed down. If the art was to be a living one *design must be experimental and creative and not out of harmony with its epoch*. So experimental workshops were established, which also acted as agents for the buying of raw materials.

Selling the work of peasants on commission was soon realized as impracticable. The necessity for paying cash for their raw materials, and the hardness of the peasants' existence, made it imperative that they should enter immediately into possession of their earnings, and not wait months, or they would tend to abandon this work altogether. So, in order to buy outright for resale, it was necessary for the association to borrow capital from private individuals and from banks.

The association concerned itself with many crafts in wood-working, leather manufactures, lacemaking, ironwork, but since it is for its wealth of textiles that Sweden is most famous, a few of the steps to improve the quality of those will be listed.

The wool from flocks indigenous to Scandinavia is not of the finest quality, so a breed of sheep with supple wool which could resist the severe climate was eventually found and bred.

Linen weaving had almost fallen into disuse when there was a renewed demand for it from the public. So the centres were set up where the processing of the flax grown by the peasants—the retting, scutching, and hackling, a long drudge for the individual family—could be dealt with by modern methods.

The association found it necessary to revive the art of vegetable dyeing. Colours so dyed have a natural harmony which results in a richer colour effect on the finished cloth, and experience in dyeing is an education in the use of colour. In addition there was a demand from abroad for vegetable-dyed yarns. Courses of instruction of a very simple kind were instituted, often in the summer by a little stream, reproducing the conditions under which the peasants would have to work at

their own homesteads. In addition quantities of yarn were dyed for sale. It should be emphasized that chemically dyed yarns are not excluded or despised by the associations, but they have found it necessary to exercise control over the dyeing of yarns supplied to peasant workers. Here the advantages of a big central organization representing workers up and down the country is evident in that it could approach the reputable dyeing-firms, and demand from them first-class dyes at contract prices.

In addition the associations have made a study of loom construction to help the man of the homestead to undertake this work, and, on the sales side, a study of demands of widths and types of cloth and rugs in demand for contemporary homes.

The many craft societies which came into being are now joined in a national society, which receives a Government grant for information activities and to provide consultants, and at the Board of Trade there is an Inspector of Handcraft.

Sweden had an extremely rich and varied tradition of crafts, especially in weaving, and a few wise people woke up to what they were losing while the custom of making many utilitarian objects—towels, aprons, baskets, strong work-clothes—was still alive and healthy. Other countries may be less fortunate. But it is heartening to know that Switzerland too, with a less rich source of tradition, and with her crafts fallen almost into desuetude, now has a flourishing craft organization. Ernest Laur drew inspiration from the study of Scandinavian societies in founding the Heimatwerk, which draws on the traditional talent for weaving and embroidery of the women of the mountain valleys, who may be cut off from the bigger centres for months in the year. The Heimatwerk organization helps them in the three ways most necessary. It helps them to obtain materials, which would otherwise involve impossible journeys; it helps by giving them marketable designs and advice over technical problems; and it assists in the marketing of their products. It seems to me that this combination of practical help with the greatest degree of freedom in what work is done at what time, offers the best principles on which to work. An important part of the Heimatwerk is the liaison work done by young women trained for it in the school at Zürich.

This experiment contains such fruitful lessons that I shall let the woman² who, along with her husband, rescued those

² Agnes Laur.

dying crafts and organized them into a rural industry, speak of it herself. .

We felt it would be a rewarding task to bring the national crafts into the Swiss home.

We were aware from the outset of the danger lying in wait for all such movements—namely, of relapsing into mere copying or imitation of the old peasant arts. We all know how easy it is for town-dwellers to take that way when their own inventive powers are exhausted . . .

Thus our first visits were paid, not to museums and ethnological collections, but to modern dealers. The first thing we did was to found a weaving-school at the headquarters of the Farmers' Union. We were fortunate to be able to hand over its direction to a Norwegian born in Switzerland, and later to her friend, two outstanding weaving-artists already known as members of the Arts and Crafts Association. They were commissioned to organize handweaving, which still existed in places, on a new basis, to lay in a stock of patterns, and to reintroduce the real art of weaving among the wives of mountain peasants.

The new patterns were based on the plain and fundamental techniques of weaving—*i.e.*, we chose first and foremost materials with plain effects, which have actually been known for centuries, but have been completely neglected in later times owing to the unlimited resources of the mechanical looms.

But another equally difficult task awaited us. The weavers in the mountains had, of course, first and foremost to provide themselves and their families with all the fabrics required for their clothes and households. But they also wished to sell their goods in order to add to their earnings. Our first step was to try and interest the drapers' shops, but with little success.

For that reason, in 1930, we founded our own sales centre in Zürich, the biggest town in Switzerland, under the name of "The Swiss Cottage Industries." Similar shops have been opened in other large towns and tourist centres since then. They all work on their own account, though with the same aims, and are united as members of the Swiss Arts and Crafts Association in the legal form of a general utility corporation (page 81).

So far I have spoken mainly of weaving. In all parts of our country, however, there are other branches of the national crafts which also required our attention. Yet we had to find a general policy which would give a clear line to our trade, would make it possible for us to find the real and exclude the false, and thus give our country an unmistakable stamp. The problem presented no difficulty. We simply asked ourselves what a young Swiss married couple, founding a home, would require in the way of articles of daily use and ornament if they wished their home to be up to date, and all the same show the hand of the craftsman. First, table and bed; therefore we engaged our interior architect, who designed furniture, and had it made by country cabinet-makers. The furniture provided the opportunity for the use of

furniture-covers, rugs and carpets, curtains, cushions, wall-fabrics, fine table- and bed-linen, and so on. Within a short time the Heimatwerk had developed from a souvenir-shop to an important furnishing-store. It has often been called a craftsman's department store.³

How, we may ask, does this organization avoid subsidizing bad workmanship and shoddy things with a cheap commercial appeal?

It is my business [says the organizer, herself a craftswoman] to buy the thousands of things that can be offered for sale in the Heimatwerk—a fine if onerous task. Well selected is half-sold, but nobody is infallible. My work brings me into touch with all the craftsmen in our country; I try to advise them, and make them familiar with the wishes of our purchasing public. But I have to deal with other people too, the countless host of people who feel the call to practise crafts which simply appeal to the bad taste of the public. But we make no concessions that we cannot take the responsibility for. The majority of tradesmen would certainly imagine that to do business you must offer the public what it wants. We are a little proud of the fact that our Heimatwerk has shown that even a business run on firm artistic principles can flourish. We have even seen that the public recognizes the strict conscientiousness which we practise in buying, and is ready to trust us.

Another solution to the problem of preventing the deterioration of useful small industries is that of the Rural Industries Bureau in England which, partly supported by the Government, keeps a considerable staff of organizers trained in the country crafts, and centred on a headquarters from which they are fed with information on new techniques and new materials. These organizers, trained as advisers in blacksmithing or pottery or weaving, etc., are stationed all over England and Scotland, and go round their districts visiting the craftsmen in their own workshops, helping them with practical or business problems, and quite often teaching them new techniques on the spot. In this way, as horse-shoeing became almost unnecessary with the increase of tractors, the village blacksmith was enabled to take over much of the repair of the new machinery by learning oxy-acetylene welding. Other important contributions of the Rural Industries Bureau are its services in adapting premises, extending equipment, testing samples of raw materials, and in

³ The Swiss Government contributed £20,000 as working capital. The present turnover is more than eight times the Government's grant now, and the stocks held are worth four times that original.

giving instruction on costing, which is apt to be a source of worry, and often loss, to the small craftsman. Although it is always difficult and sometimes a practical impossibility to entice such countrymen away from their own workshops (as they have no one to leave in charge) the bureau also runs courses of a few weeks for craftsmen who wish to learn techniques new to them.

Through the help of the bureau's advisor, a European designer with technical knowledge, a number of small country woollen mills, which were not able to compete in their own district with the influx of mass-produced goods, were shown how to improve their techniques, and so to use the skill and experience of the workers to produce goods of a high quality which would sell anywhere on their merits. Some of these skills have been perfected to the highest pitch of craftsmanship, and even if there were a temporary drop in the market demand, it would be extremely unbusinesslike, if nothing else, to allow such workers to go idle, and such skills to die. Generally speaking, I am against artificially preserving something which has ceased to be in demand for a generation, but surely there is a greater claim for maintaining a few of the "peak-skilled workers" than there is for merely preserving ancient implements and machines. Such skill will have an historical value as much as the preservation of ancient dances and dramas. It is part of our knowledge about our own antecedents. But we do not know whether in fact it may have some practical value, whether some process or technique may not have some relevance to future developments. It would be well worth any state or community preserving a few workers whose skill has reached this point of perfection, as I believe is done in some of the Scandinavian museum villages.⁴

Since the virtue of the rural craftsman often lies in his skill in contrast to the greater economic efficacy of the machine-equipped factory, it is probably in making fine products, perhaps of an individual or local flavour, that he can compete with mass-produced work. In order to do this he must have the

⁴ M. Polanyi quotes, in *Personal Knowledge*, Balls on industrial textile research: "Most of the initial decade's work on the part of the scientist will have to be spent merely on defining that which the [hand] spinner knows," and this prediction was confirmed by Dr Toy, then Director of the Shirley Institute, the world's leading cotton-research laboratory. Polanyi, himself a scientist, goes on to write: "An art which cannot be specified in detail cannot be transmitted by prescription, since no prescription for it exists. It can be passed on only by example from master to apprentice. This restricts the range of diffusion to that of personal contacts." And this is as true to-day as ever.

materials he needs. As these are often not now obtainable in his own district it may be in this way that some central organization can most help. We all need to be able to buy a multitude of necessities reasonably cheaply, but we most of us delight in a garment or a household object which, of carefully chosen materials, was responsibly made and carefully finished by some one who had a feeling for his or her craft. Although these goods will probably cost more, they are not necessarily luxury products, as the thought and care that have gone to their making often make them far more durable.

There is also the fact that far more varieties and individual qualities of materials can be preserved in small industries.

A machine which he can accommodate, and which he can master as completely as a hand-tool, can lessen the craftsman's work. But the introduction of machinery must be thought out in relation to the qualities of the final product, so that he does not try to compete with the large-scale industry with its resources. The provision to the Harris crofters of machine-carded-and-spun wool for their own cottage-weaving of the famous hardwearing Harris tweed nearly destroyed the reputation of the industry, since it is the hand-carding of the wool rather than the spinning or weaving which results in the lifelong wearing qualities which made this tweed famous. The introduction of machines can help, but only if the essentials of each part of the process are analysed, and the qualities which give the product its distinctive market value are understood.

The question of design is a very difficult one. Rural craftsmen are usually sound on design so long as they work within the traditions of their craft, which have been developed to meet the needs of people who were discriminating and not yet confused and bamboozled by the present spate of commercial advertising and transient fashions. Patterns and shapes which have continued to please successive generations have usually lost the accretions of the unsuccessful individualist and of passing fancy (however charming in its day), and what survives is what has a fundamental appeal to human beings. Thus checkered patterns in weaving, such as Scottish tartans, or the bands which give visual and actual weight to the hem edge of the Indian sari, have continued to satisfy through many generations. So have the squat strap-handled jugs made by the medieval monks in Europe, and still produced in unbroken succession in at least one small pottery until recently. But it is a tragic fact that the

craftsmen trained in one tradition, unless he is an exceptional person, may lose his sense of standards completely if he steps outside it. Coomeraswamy speaks of it disappearing in one generation. Once the craftsman loses faith in the ability of his traditional work to please, and, in confusion and uncertainty, tries to produce novelties or work with a contemporary appeal, he has no standards by which to judge. Perhaps we have all seen such traditional craftsmen, unable to market their sound traditionally produced products in their own small community, against the flood of cheaper mass-produced alternatives, turn to the production of souvenirs in which they have no better models than the local multiple store. I do not sneer at souvenirs. It is a natural desire of people to wish to carry back some tangible thing to place about their homes and remind them of the pleasures of a holiday, and of the peculiar atmosphere of another district or another country. But there is no reason why souvenirs should be badly designed or of unpleasing material or, above all, why they should be ubiquitous in form, losing their *raison d'être* of embodying associations of a particular spot. If only local craftsmen could be persuaded to see that when we bring home a piece of glass from Venice or of carved wood from Austria we want something which belongs to the long traditions built up in those places, and not something which could be bought in our own neighbourhood stamped with a different name.

On the other hand, unless the tradition of design has already broken down, such craftsmen may be producing unpretentious pleasing forms, but may feel the lack of technical help over materials. If their local source of materials has given out, or if public standards of demands have changed in some way they cannot meet, then a sympathetic knowledgeable advisor can help immeasurably.

The story of the English country pottery still making, in our own day, the squat medieval jugs of which I spoke provides an illustration of many of these points. The machinery of this tiny remote pottery was elementary, almost medieval itself, but when I visited it the two old men had been managing very well to produce from their local clay these squat jugs, which were sound, satisfying pieces of kitchen-ware—but for one drawback: the glaze. When I said that I wished to buy something, however, they showed me a range of horrible vases with distorted lips and twisted handles, which they were producing because they

remarked sadly, "People don't seem to want our jugs nowadays." They were making an effort to capture the passing tourist trade instead of their former local market. Their mistake, however, was in thinking that it was the shape and function of their jugs which had been superseded. It was the fact that they were still using an almost medieval glaze, thin and rough, which made the jugs unacceptable for kitchen use compared with the technically excellent glaze of the less-shapely mass-produced jugs. Help was available in tackling this technical question from the Rural Industries Bureau, but perhaps it was already too late. The two old men passed out of business without handing on their skill in making a beautiful shape with a tradition of 500 years behind it, which is still a practical shape to-day. All the sad facts are there: their lack of touch with technical standards, their inarticulate confusion, their misguided attempt to adapt themselves to the less-stable aspects of the new age, and the final death of the pottery.

The country craftsman, busy, isolated, often out of touch with modern needs, can be greatly helped by marketing facilities. The Rural Industries Bureau in England helps in this way, as do the organizations mentioned in Part Three, Chapter 2, and the Craft Centre of Great Britain offers facilities to the individual craftsman or team, as do special departments of some stores. One of the finest examples of such marketing is "Den Permanente," in Copenhagen, with spacious floors, excellent display, and above all a very central site in a shopping district, and near the main railway-station.

Great harm can be done to traditional craftsmen by persuading them to cater for a distant market with which they are out of touch, and which is subject to fleeting fashion. Such damage has been done to sound traditions and to the self-esteem of the craftsmen—as happened recently in West Africa—by an adventurous organizer descending on a relatively remote community and persuading the craftsmen to turn out quantities of things to his design, or his adaptation of one of their own designs, because he declares that New York or Sydney is "just crazy" about such products. In good faith the village craftsmen turn out quantities of these objects in this expectation, neglecting their homelier, if more stable, local market, only to find that by the time their new work can be transported and shipped to the metropolis which was clamouring for it, and marketed, the fashion has changed, and no one now wants to buy this par-

ticular pattern. Such an experience is shattering to a responsible workman.

On the other hand, one would not plead for the perpetuation of traditional materials or traditional designs for their own sake, but only because they have been tried and not found wanting, their qualities have stood up to the hardest tests. There is no reason why new designs and new materials should not be introduced as, of course, they have been in the past, but at reasonable intervals. They must be tested and digested in the process. Above all, old skills and old ways must not be thrown away before the new have proved themselves. There must be many materials which it is now possible to import from other countries, and many synthetic materials which could make a contribution to traditional crafts providing, for example, stronger warps for weaving, or machines for more rapid stitching, *provided* they are introduced by some one who understands the process and the inherent qualities of both old and new materials. There are only two ways to ensure this. One is to take some of the more intelligent and adaptable of the traditional craftsmen, and bring them to the centres where new materials can be studied and tested, and let them go back to introduce new ideas in their own districts, where they, as persons, are likely to be known and trusted.

The other is for men with technical knowledge to go and live and work with village craftsmen, as some of the U.N.E.S.C.O. Fundamental Education teams have done.⁵ Then they may be able to add to the intellectual and technical knowledge necessary to-day, something of that intuitive knowledge and sense of bodily rhythm which the old craftsmen have. For this cannot be contained in books, nor taught other than by close association and sympathetic understanding, and yet it may contain the practical wisdom of centuries.

⁵ U.N.E.S.C.O. also sends craft advisers for a span of years to aid developing peoples to maintain standards in the present confusion of styles, and to adapt existing peasant crafts or start new ones. For instance, a Japanese adviser loaned to the Egyptian region of the U.A.R. is encouraging the use of furniture-making in bamboo—a common material which has not hitherto been used there for this purpose. The U.S. Government programme of aid to underdeveloped countries offers technical help in crafts and design to encourage peasant communities to compete in the world market. It is too soon to assess the value of this experiment, but at present teams work in twenty-five countries, encouraging peasant crafts to expand into small export industries.

Interlude

A Sicilian Carretto

IT WAS ONLY AN HOUR OR TWO AFTER I LANDED AT SYRACUSA that I first heard the metallic note of the turning wheels and the jangle of small bells which announce a carretto in the narrow lanes of Sicily. As the equipage swept past me I caught the glitter of mirrors and bells in the long bright woollen tassels which hang at the horse's ears. Attached to his harness were gaily coloured fringes, brass spangles, and more multicoloured woollen tassels, each one of which, in its own crocheted jacket and decked with tiny bows, was a little work of art in itself. One great plume of feathers waved over the horse's head, and another towered above his saddle. The feathers were dyed a bright petunia pink, scarlet, jade green, and yellow like a fantastic palm-tree. The whole, swaying along, bells jingling, fringes swinging, feathers undulating to the clop-clop of the brisk horse (whose sturdy tapestry nosebag hung behind the cart) all made such a picture of barbaric gaiety that I laughed aloud with pleasure to meet such a bundle of delights in this sober world.

It was gone in a flash, and it was some time before I got an opportunity to look at one more closely. Carved and painted on every available surface, decorated with elaborate ironwork, and painted with scenes from Sicilian history, it seemed not just a decorative survival but something curiously alive. When I encountered others bringing vegetables from the fields, carting manure from the farmyards or loaded high with flowers for the markets of Palermo, I became even more curious about these marvellous carts. I knew that those people were very poor, that they worked long hours on a stony strip of land, or were labourers for a miserable wage on the great estates. I knew that generations of poverty and frustration had degraded them, but had not killed a magnificent spirit, impetuous, unpredictable, and still somewhat barbaric. Yet peasants who had to struggle to make ends meet, to feed their families of twelve, sixteen, or eighteen children, saved up for years to buy a true carretto, to

go to work each day on this magnificent vehicle, and canter down the narrow lanes, with the jangle of bells and pride of feathers.

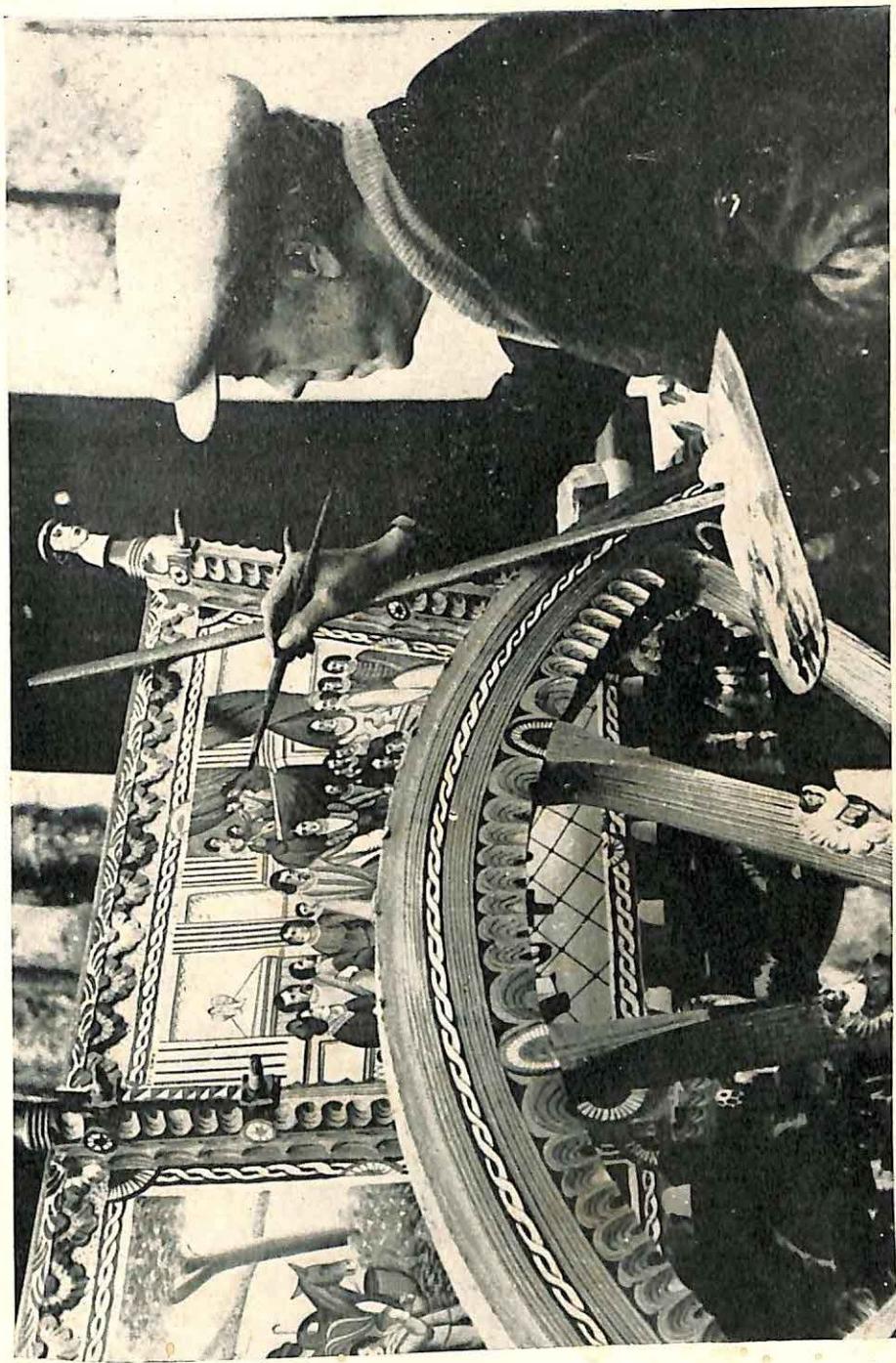
They are still being made in a country where almost no women spin, and few weave either clothes or the traditional wall hangings for their draughty houses. Their skill in weaving is now mostly put to the making for visitors of cheap cotton bags of uncertain dyes, a mockery of the beautiful, sturdy nose-bags from which they are derived. They have outlived one need and not adapted their work to another, being unguided except by the passing fancies of tourists. There would be no cause to lament the importing of textiles to Sicily, but so often those I saw were shoddy, of fugitive dye, and altogether lacking in the vitality of the old work. I was fortunate to meet Elena, who, after a quarrel with her betrothed, was saving up to sail to America, to her cousins. She showed me her trousseau, old embroideries long in her family, a wall mirror in a carved frame, and woven rugs, which she was willing to sell to make up her fare for the journey. She also showed me imported blankets which she had bought to take for herself and for her cousins in America. "But, Elena," I exclaimed, "you must not sell me your lovely things! You will long to have them to remind you of Sicily, and your cousins would value them above these blankets, which can, after all, be bought in America." She smiled at me sadly. "My cousins prefer blankets and cars and refrigerators," she said, "and I would be happy for you to have these things because I have seen the way you touched them." She was one of the very few young women I met in Sicily who cared for the old handcrafts. Most of the old women lamented their passing, but felt too lost in a rapidly changing world to plead for their survival. Even Elena, who genuinely cared, was too uncertain of the basis of her conviction to make them her pride in the New World. She had wanted them for her home if it was to be in Sicily, but she felt vaguely that in America such possessions might be despised, and she must above all be prepared to fit in, to conform. I have indeed cared for them, even to spinning and dyeing wool to mend the worn places, rethreading the careful stitches of Elena's grandmother. One of the hangings I got from her was black, red, and brown, in double weave, with a bold, strong design of peacocks. I asked the old lady why she used peacocks as her motif, and she answered that she did not know, but it was often done on wall hangings

because "it gives life to the house." I knew that the peacock motif had come to Sicily with the Byzantine culture of the fifth to the ninth centuries as the Christian symbol of the resurrection, and I linked it in my mind with the magnificent peacocks in the mosaics of Ravenna, and with the capitals and floor mosaics of the island churches of the Venetian lagoon.

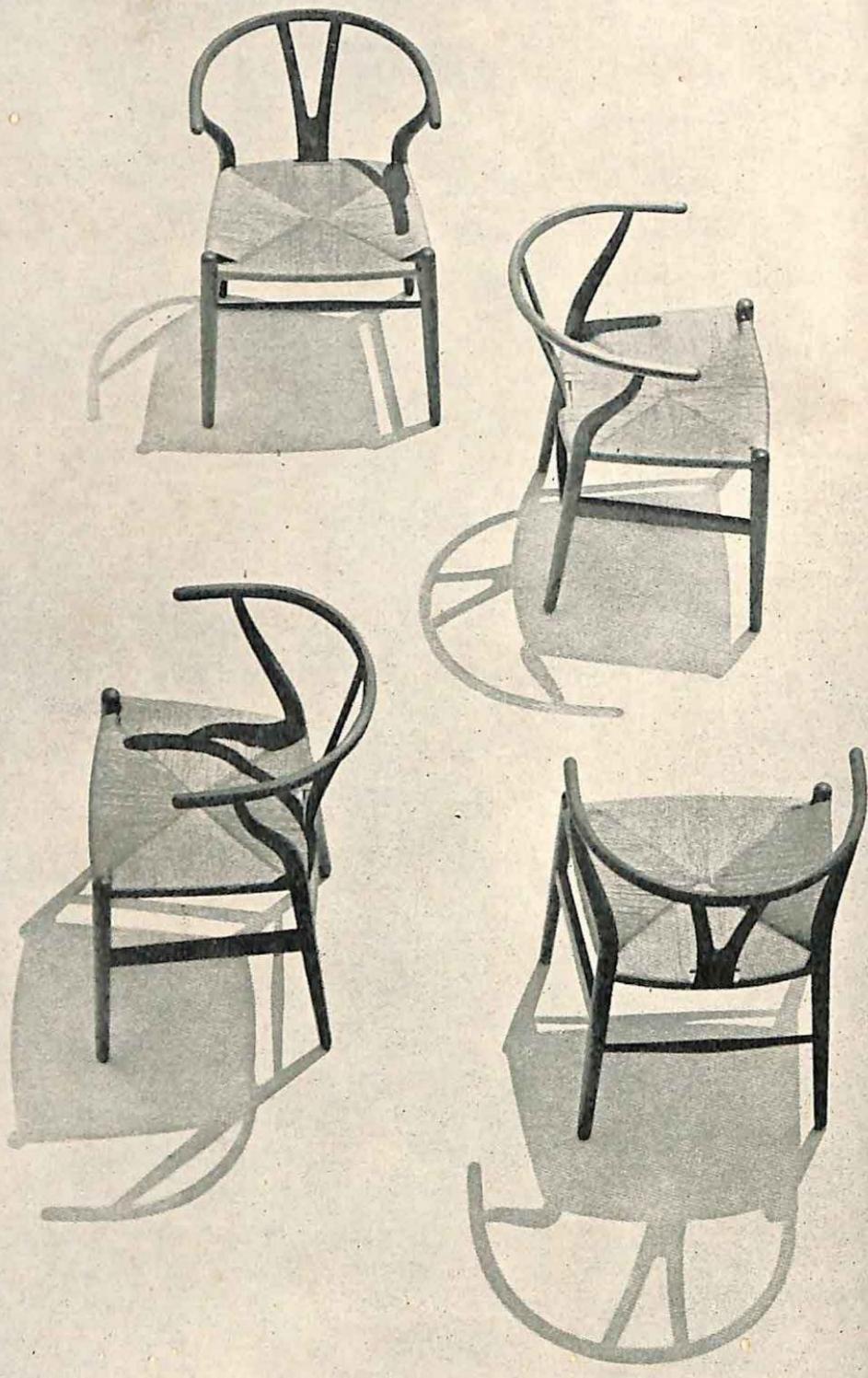
I had not at that time seen the bedroom of Roger at Palermo, where perhaps the most magnificent of all peacocks strut against a wall of gold tesserae. The mosaicists, used to decorating churches, who had numerous peacock forms literally at their fingertips, secularized them without a qualm, and placed them among the spotted leopards and prancing fawns to wean the king to sleep with noble thoughts. But I knew the peacock symbol was far older, coming originally from India, where it was found as an incarnation of the Buddha, by way of Arabia, where it was associated with the phoenix—the "Arabian bird"—and so the idea of deathlessness became paramount. It early appears in the catacombs, and from about the fifth century on is constantly to be found in Christian iconography, especially fronting the tree of life, as it is seen on numerous sarcophagi. But when, as a Christian symbol, it reached Greece, the meaning was reinforced by far older associations in that culture. The peacock is Hera's bird, and associated with the apotheosis of an empress as is the eagle with an emperor. Hera was one of the later forms of that ancient mother goddess who was the prototype of all goddesses, and who herself even appears as "the bird-headed goddess," till her animal characteristics are separated off, as it were, from her human, and she becomes a more purely womanly figure, with a bird as her attendant.¹ There is some power in such deeply rooted associations which remains even when their meaning is lost. No wonder the old lady said to me, "It gives life to the house."

Possibly its double origin, Byzantine and Arabic, gave the peacock a special potency in Sicilian art. I certainly sensed this special power in that sombre, gracious hanging which came into my possession. Perhaps we do not truly own such things simply by paying money for them. They are not ours in any real sense till we have made them our own by incorporating them into our lives and adapting our homes to receive them. The best of them have a stern purity and a barbaric splendour which is a

¹ We are familiar with some of her later derivatives—for example, Venus with her doves, Athene with her owl.



Painting a Sicilian Carretto, ITALY. The method of fining down the spokes and the elaborate carving of the uprights and finials can be seen.



DANISH chairs, simple, practical, comfortable, and inexpensive.

merciless comment on the superficial and trivial. This makes it all the more sad that 'peasant crafts' are so often conceived as—and, in response to the tourist trade in souvenirs, are, in fact—gay and arty frivolities, cut off from the healthy demands of utility or the truth of traditional symbols. The only excuse for taking such pieces of craftsmanship as retain these out of their setting is to save them from neglect and decay, to care for them, and use them to invigorate a different way of life. So my friends announce themselves on a Sicilian wheel of bells, wrought for me by the Taormina blacksmith. They walk on the warm rugs of Elena's grandmother, and enjoy with me the tailpiece of a carretto hanging in my living-room, when the rest of the cart has long rotted on some rubbish dump.

After the delight of my first encounter, I went in search of a bottega, where the carts are made, and I guessed I had found one when I saw a wheel resting on the pavement outside. An old man was trimming the spokes and half-way along each spoke he was carving the head of a cherub, so that when the wheel turned a ring of these cherubs would form a wreath whirling round the hub. His name was Pietro, and though I did not find his dialect easy he was patient with me. He spoke shyly of his boyhood, when he was apprenticed to a bottega, where he learned first to clean the floor and keep the tools sharp, till, by an almost unconscious assimilation from the older men, he came to know the different motifs, and how and where they were traditionally carved. So he graduated from straightforward trimming and gouging to the simpler forms of decorative carving, and so finally to his "master's certificate," a complete carretto, every stroke and flourish his own. Pietro was the oldest of the five men in this bottega. They seemed to work happily together as a team, but I wondered if, when the younger mates were his age, there would still be a demand for carretti.

To understand the significance of the parts of a carretto it is necessary to visualize the vehicle as a whole. It is a high box-like cart, raised some distance above the axle of the great wheels, which tends to make it top heavy, but, on the other hand, more suitable for rough and mountainous roads. The wheel rims are very narrow, and the arrangement for the rotation of the wheels very primitive. The journal-bearings are simply cone-shaped pieces of metal called "buccole," kept in place by two beaten discs of iron. These buccole are made of a bronze called bell-metal, and in rotating they clang against the iron discs and pro-

duce the metallic sound like bells, which is so distinctive to those carts. I was told that though this soft metal soon wears out, the sound is so much prized by the carrettieri who drive them that, even though very poor, they keep having new metal put in so that they can have this sound of bells on their journeys.

The traditional woods of which it is constructed are walnut, for the fellies and the nave of the wheels; ash, for the spokes and pegs; beech, for the seats and shafts; pine, for the rest. It is a primitive affair, unchanged over centuries, owing nothing to modern studies of traction. The appearance would be rude and rough if the cart were left at this stage. But every part of it is carved, and most of it by the joiners themselves as part of their work. The trimming of the spokes of the wheels which I had watched Pietro do is a most subtle piece of craftsmanship. The angular edges of the spokes are trimmed away for most of their length, leaving the greatest strength at the places where they are inserted into the rim and the hub; great delicacy is achieved by cunning sweeps to thin the appearance of the spoke by letting the light fall only on half. The tailpiece is elaborately carved in relief and then painted. The one I possess has an eagle-like bird between sea-horses whose tails branch out into foliage. The upright posts of the cart itself are also carved, and usually end in finials like the poppy-heads² of English church pews. Between these posts are painted wooden panels, two on each side of the cart, and a long rectangle for the back door which gives a wide-screen sweep very suitable for battle-scenes or a stretch of ocean with mermaids and monsters. The figures in these scenes are very distinctive; they are slack and boneless, even the warriors, and are firmly outlined in black. In contrast to these pictures of incidents on the outside, the inside of the cart is always painted in large, rather harsh, geometrical shapes in flat colours.

The motifs used in the decoration of the carts are not recorded in any book nor taught in any school. The carver tries out his design neither on a piece of paper nor even pencilled on the wood itself. With bold certainty he picks up his gouge, and with swift strokes attacks the work. He has the idea in his head, he can tell you what he is going to carve, but the actual arrangement, the relating of one object to another, comes as he works

² The finials of the wooden pews in English churches are called "poppy-heads," not from any likeness to the flower, but from the French "poupée," "doll."

with an intuitive sense of spacing and weighting. And this in a craft where a false stroke cannot be undone!

Frequent among the carved and painted motifs are strange curling plants whose leaves may turn into even stranger creatures: sea-horses, eagles, mermaids or horses with fishes' tails. If they are just repeated with variations by each carver in turn where, I began to wonder, did they first originate? The tradition is so strong—hardly any carver varies them—that I thought they must have an authentic original somewhere. Those little heads surrounded by wings, which old Pietro had been carving—surely I had seen such cherubs' heads before, and only recently? To confirm a vague memory I went back to Monreale, that superb cathedral perched on rocks above the fertile plain behind Palermo, and here I found my first clue. Around the cloisters stand double columns with carved capitals, and much of the carving consists of just these same fantastic creatures as on the carts—their tails growing into branching plants with curled leaves. And on the same columns I found what I had taken for "cherubs," but clearly they weren't cherubs but heads of ladies with ruffs made of petals, who look out plaintively from a capital of A.D. 1100. Was this the work of some nostalgic monk telescoping in his carving the two images of a woman and a flower? There are 216 of these extraordinary capitals in the Monreale cloisters, and all are different. On one column I also found the bird with outstretched neck, and feathers like overlapping leaves, which turns up on many carretti.

One day I braved the jeers and rotten oranges of gangs of neglected children and picked my way through the slums of Palermo to the decrepit Palazzo Zisa, a former pleasure palace of the kings, built in Arab style. The decoration above the mosaic frieze of the entrance court gave me another clue—it was a repeating pattern of a tree, like the ace of spades in a card pack, and just like the tree which I had seen on the uprights of many carretti. Now, the work at Monreale is twelfth-century, and though the Zisa is later, we know that Arab workmen specifically were employed to build and decorate it: so I thought I was on the right track. If I am correct, the carretto motifs were brought to Sicily in Arab times, eight centuries ago, and as the court art moved on, reflecting the changing fashions of western Europe, they became fixed, frozen, as it were, in the traditional arts of which the carretto is one.

This theory is perhaps reinforced by another part of the car-

retto which preserves a direct link with Arab culture. There is a strong iron bar connecting the two supports under the cart, which raise it from the axle by almost a foot, and attached to this bar is a forest of leaves of wrought iron, which curl downward over the bar and upward into the space between the supports. It serves no purpose but to fill that space. This ironwork is wrought by the same ordinary blacksmith who binds the wheels and hammers out the bars. Every few inches along these curling leaves the iron is beaten out into a circular metal disc, or a separate disc is soldered on, spaced so as to form a pattern over the whole. The discs are often painted with a gold star, and the writhing leaves of iron which carry them are painted dark blue, so that the whole is an evocation of the night sky. I was sure I had seen this before, but I could not remember where or when, till letting my mind drift round the subject, I found it evoked the smells of Istanbul. There, years before, I had been interested in the little bulging balconies which cover the ground-floor windows in the old parts of the town. They now serve as airy cages in which mothers keep their babies under their eye. The memory was vague and the association far-fetched. I consulted a book on the subject which showed just the same tracery and beaten-out discs, suggesting a similar tradition behind the ironwork of carretti and Turkish grids.

From now on I never knew where I should find something which threw light on the carts. At first I had taken them just for a vibrant example of popular art, a colourful addition to the Sicilian landscape. Now the carretto motifs became for me a fascinating survival of those few brief decades in the twelfth century, when indigenous Sicilian, Saracen, and Norman-Christian art met. While Arab rule lasted in Sicily, figurative art was of course forbidden by Mohammedan decree. As happened in other countries, pure ornament flourished and craftsmen developed a wonderful sense of rhythm, spacing, and tonal decoration through having to concentrate on abstract forms. When the island was conquered by that soldier of fortune, Roger of Normandy, who became first Christian king of Sicily, not only were figures introduced again, but all kinds of mythological creatures, hippocampi,³ doubleheaded birds, mermaids, which had survived in the countryside since Greek times, came back into favour again. One of the fascinations of the carretto

³ There is a stone hippocampus, a fish-tailed horse, of later date, in the little square at Taormina.

for me is that it has preserved, even if in a rude and gaudy form, the combinations and contradictions of that curious remote period of Italian art (page 128).

This style is to be found at its purest and strongest in Sicily, but you can see it wherever the Arab traders found their way up the coast, at Pisa, at Ravello, and above all at Salerno, south of Naples. Years ago, while camping at Salerno, I had taken photographs of the famous pulpit in the cathedral there, and now I looked them out to compare them with the Sicilian type of ornament. All round this pulpit is a band of carved foliage with the four-petalled rose, which I had come to know so well from the carretti. And above that is a band of interlacing mosaic laid into marble—what is known as Sicilian mosaic—a repeating pattern in which the dark stars and triangles throw up the lighter marble so as to seem pierced in a lace-like effect, reminiscent of the pierced stone which is distinctively Arab. So this pulpit shows different styles of ornament which hardly influence one another, but exist side by side. I was still staying in Palermo, and with the memory of these photographs I now went to the Cappella Palatina, the little chapel of the kings inside the fortress-palace of the town. I stepped from the glare of the harsh, blank, sun-soaked courtyard into the dark interior as though I were penetrating the inside of a jewel. Every part of the inner surface glows with its own decoration. The first thing you see as you enter is the great throne, and round it runs a band of Sicilian mosaic. But among the abstract patterning are little birds and animals in a natural style juxtaposed as closely as at Salerno. The floors and lower part of the walls have large geometric panels of coloured marbles. Above this is a band of Sicilian mosaic repeating an elongated form of the "ace of spades" tree. Above this again, on the upper walls, are Byzantine mosaic pictures of great beauty, but the ceiling itself is the crown—an inverted crown, for it consists of pendent stalactites of many facets, and the hollows between reaching up into the darkness are made of painted wooden panels. These panels are painted with figure-scenes rather like Persian miniatures. The languid ladies smelling a flower, or poets reading under a blossoming tree, are painted with a black, sinuous outline, and their large sloe eyes and boneless bodies are close in style to the Persian illuminators. They are a great contrast to the stiff Byzantine figures in the mosaic just below and to the abstract decoration alternating with birds and animals. Again the styles do not

mix. One does not modify the others—as the harsh geometry of the inside of the carts contrasts with the formal carved and painted posts and with the languid picture style of the paintings of the sides and back.

The subjects of these carretto paintings are taken from history and legend, familiar to the Sicilians from the marionette shows which still travel about the island and can play a different show every night for weeks by dint of unscrewing the heads of the gigantic puppets and putting on new ones. The painter, without any preliminary drawing, will outline his figures, knights in armour, fair ladies with waist-length hair, the wicked father and the dark Turk, and portray the battles and adventures of the Carolingian cycle, with Orlando, Rinaldo, and their comrades. Occasionally a modern note is struck in the paintings—alone of the carretto decorations—when some admired football team is portrayed, or some modern war adventure, but always in this simple bold style with little detail and shading, and no attempt at the intricacies of distance. These painters have never studied from life, nor have they been taught composition. They construct their pictures from out of their heads, and out of the long traditions of their masters, without subtlety or great originality, but, like most popular art, manipulating well-known and conventional forms with a pervading charm. I think I detect in the linear emphasis and the languorous attitudes of these carretto paintings an echo of the Persian style of so many centuries ago on the wooden panels in the Cappella Palatina ceiling.

If one asked the blacksmith or the carver the source of his motifs he would not mention a thousand-year-old civilization but would speak of his own master and say, "This is the way it is done." It has been argued that carretti took on their present form only in the last century, but if this is so it is still puzzling why these Arab rather than other motifs in the architecture around became their accepted decoration. Carretti will certainly disappear, but I hope the vitality which has kept alive these ancient motifs and symbols will be poured into the new forms which supersede it.

*The Training of the Designer for Industry—
Focus on the Bauhaus*

IN THE PAST THE WAYS IN WHICH MEN BECAME DESIGNERS FOR industry were so varied and often so haphazard that to generalize in brief is impossible. The outstanding systematic experiment of this century in training designers for industry was the Bauhaus, and though this is well known and daughter schools of the Bauhaus exist in several cities, Gropius' ideas are still fresh and cogent enough to bear re-examination as new colleges of art and technology are set up all over the world.

The Bauhaus was established by Walter Gropius in 1922, first at Weimar then at Dessau. Gropius was not only a great architect, but will, I believe, be recognized as an important educator of this century. His penetrating mind cut through the tangle of confused thinking about art-school training, analysed the situation and the needs, and established a new type of training for architects and designers. Gropius himself saw his aim as the unification of all training in art and industry, and an essential condition was the preliminary course common to all students, whether they were to become architects, or designers, or painters, a course in manipulating forms, colours, textures.

Gropius wrote of the Bauhaus:

Intellectual education runs parallel to manual training. The apprentice is acquainted with his future stock in trade—the elements of form and colour and the laws to which they are subject. Instead of studying the arbitrary individualistic and stylized formulae current at the academies, he is given the mental equipment with which to shape his own ideas of form. This training opens the way for the creative powers of the individual establishing a basis on which different individuals can co-operate without losing their artistic independence . . . Collective architect work becomes possible only when every individual prepared by proper schooling is capable of understanding the idea of the whole, and thus has the means harmoniously to co-ordinate his independent if limited activity, with the whole work.¹

¹ *Bauhaus 1919–28*, edited by Bayer and Gropius (Allen and Unwin).

Gropius believed that the best training for a young designer or architect would have been the old type of apprenticeship to a master-craftsman who had both the aesthetic and practical aspects of his craft at his finger-ends.

The old master-craftsmen possessed practical and formal skill in equal measure. But as they no longer exist it is impossible to serve voluntary apprenticeship. All we can substitute for it is a synthetic method of bringing practical and formal influences to bear on the pupil simultaneously by combining the teaching of first-rate technicians with that of artists of outstanding merit. A dual education of this kind would enable the coming generation to achieve the reunion of all forms of creative work, and become the architects of a new evaluation. This is why we make it a rule in the Bauhaus that every pupil and apprentice has to be taught throughout by two masters working in closest collaboration with each other, and no pupil or apprentice could be excused from attending the classes of either.²

This rule operated till Gropius felt he had trained some of his own students to serve a double function.

Every student served this six months' preliminary course, which was intended to free the student's individual creative ability, to give him a knowledge of materials, and to help the staff to arrive at a just appraisal of the pupil's powers of expression. Gropius thought its importance lay in the fact that elementary self-expression which has been systematically developed is the foundation of all art which deserves the epithet "creative."

The students were introduced to a range of materials—stone, clay, glass, wool, wood, metal, and materials like paper for exploring easily three-dimensional form. They were encouraged to 'play' with the material, getting to know its particular qualities, experimenting with what it would do, and finally making from it anything which seemed to fulfil and be perfectly appropriate to the nature of that material.

They began amateurishly and playfully, but gradually something grew out of their play which looked like a new and independent trend. Technique was acquired as it was needed, and as a foundation for future attempts. Unburdened by any practical considerations, this play with materials produced amazing results, textiles striking in their novelty, their fullness of colour, and texture, and possessing often a quite barbaric beauty.

This freedom of approach seems worth retaining for every novice. Courage is an important factor in any creation; it can be

² *Bauhaus 1919-28.*

most active when knowledge does not impede it at too early a stage.³

Along with this practical training went work in representation, in the exact depiction of natural objects, in the study of the old masters, and in a study of form and abstract design. The preliminary course concerned the student's whole personality, liberating him to gain the knowledge of both material and form through direct experience. Albers, who was for a time in charge of the preliminary course,⁴ writes about it most tellingly:

Economy of form depends on function and material. The study of material must naturally precede the investigation of function. Therefore our studies of form begin with studies of the materials.

Industrial methods of treating raw materials represent the results of long technological development. Technical education heretofore has consisted chiefly in the teaching of established processes. . . . If such training is given alone it hinders creation and invention. . . . The learning and application of established methods of manufacturing develop discernment and skill, but hardly creative potentialities. The ability to construct inventively and to learn through observation is developed—at least, in the beginning—by undisturbed, uninfluenced, and unprejudiced experiment—in other words, by a free handling of material without practical aims. . . . Therefore we do not begin with theoretical instruction; we start directly with the material. In order to ensure first-hand manual knowledge of the material we restrict the use of tools. As the course advances the possibilities in the use of various materials as well as their limitations are gradually realized.

One interesting fact which emerges from this is the belief of the Bauhaus teachers that inventiveness and imagination and courage are to be developed first, and techniques second. This is a contradiction to most technical training, but the results speak for themselves.

The influence of the Bauhaus has now become so persuasive in manufactured goods in the world that we are hardly aware of it. Industrial design is subject to fashion, of course, and what we get is often a watered-down, vaguely 'contemporary-looking' object, which bears only a superficial resemblance to a well-designed product. The well-designed thing will be known, not by its appearance only, but by delight in handling it.

After the preliminary course each student who was to continue at the Bauhaus bound himself for a term of three years as an apprentice to one of the masters in wood, metal, etc., and

³ *Bauhaus 1919–28.*

⁴ Quoted in *Bauhaus 1919–28.*

as well as those studies which were peculiar to the Bauhaus, he covered the work necessary to take the Journeyman's certificate. Gropius continues:

Believing the machine to be our modern medium of design, we sought to come to terms with it. But it would have been madness to turn over gifted pupils to the tender mercies of industry without any training in craftsmanship, such idealism could have only results in their being overwhelmed by the narrow materialism and one-sided outlook of the modern factory.

Through liaison with the factories the students did in fact progressively work with industry. When they had completed their Journeyman's certificate they could proceed to the much more difficult Bauhaus certificate. Most would be absorbed by the building-trades and industry, but

there will always be a small minority of outstanding ability whose legitimate ambition it would be a pity to circumscribe. As soon as they have completed their training they will be free to concentrate on individual work, contemporary problems, and the inestimable useful speculative research to which humanity owes the sort of values the stockbroker calls 'futures,' and since all of these brains will have been through the same mill they will be able to compel industry to serve their idea, and industry will seek out and utilize their comprehensive training.⁵

To carry out this programme Gropius showed another facet of his genius in gathering round him and holding together a body of brilliant men, including Paul Klee, Kandinsky, Moholy-Nagy, and others. We are also told of the spirited discussions and the violent controversies between students and staff, and the resulting revisions in organization through which the students were permitted to take an active part in shaping the policies of the Bauhaus.

The critical [we are told] were challenged to formulate practical suggestions for improvement. This gave each student a feeling of responsibility for the work as a whole, and this aspect of the students' creative activity contributed largely to the Institution's subsequent success.⁶

The Bauhaus was closed and its staff dispersed by the Nazi regime, but the experiment had been operating long enough to inspire confidence, and its members carried on various aspects of its work in many quarters of the globe, especially in Chicago and, in the Bauhaus established after the war, in Ulm.

⁵ *Bauhaus* 1919-28.

⁶ *Bauhaus* 1919-28.

Accounts of the Bauhaus, its intentions and achievements, should be read in the words of Gropius and his colleagues, but may I summarize what seemed to me its most important aspects for us? First, it was a training which combined the creative and imaginative work with the necessary technical knowledge for working that material in industry. Secondly, architects, engineers, and designers had a *common* basis in their preliminary training, therefore they knew something of many materials, spoke something of a common language, and could collaborate on a common piece of work. Thirdly, Gropius had some of the most original painters of the day working with, and talking to, students going into technical trades, students whose education in other centres was usually deplorably limited. Fourthly, Gropius saw the intellectual ferment thus stirred up, and the participation of students in discussion on the nature of their course, as part of their education.

The practical effects of the Bauhaus on the design of almost everything we use are incalculable. Some common objects such as the tubular steel chair were designed in the Bauhaus thirty years ago, and have never been improved upon. We owe more to that group of brilliant and devoted men than we can acknowledge. I believe that the Bauhaus, rather than the usual type of college of art or technical college, must serve as a model for every new institution for higher technical training, and for the training of designers for industry. The only respect in which I would question Gropius' belief, if I understand him aright, is that I believe there is still room not only for artists working in a team with architects and technicians but also for those few individual painters and individual craftsmen who feel they must work on their own. They will only be few because their ranks are thinned by the difficulty of making a living in industrial societies. It is cruel to encourage young people to imagine themselves more gifted as artists than they are through subsidizing innumerable inferior talents by grants to art schools, and it is uneconomic to accept large numbers of them for a training which can never offer them a livelihood. It would be much better, through the provision of part-time education up to an older age, to offer them some form of creative activity for their own pleasure, and perhaps to add to their earnings. I myself think that obstacles should not be cleared from the way of those who claim that they wish to be artists. Then, only those who are driven by inner necessity to paint or carve or make pots

beyond all else will persist in their intention and prove their integrity. As the normal working hours lessen there will be time for the competent but not brilliant artist to develop his talent, while contributing in another way to the life of the community. I myself do not lament that we have too few full-time professional artists, but rather too many of less than highly original quality. A general raising of the creative potential of the community through more people practising an art for their own pleasure, and better teaching in schools of general education and leisure classes, might result in more artists of a high quality.

Gropius speaks of the ultimate goal as "the composite but inseparable work of work," and we profoundly need such works in town-planning, architecture, engineering, furnishing. One could point to some outstanding examples in different parts of the world now. But I believe too that the individual work of art, of one human spirit speaking to another through the medium of his material, will continue to be as necessary as poetry is, and that we cannot circumscribe the forms of art appropriate to our age. If an artist chooses to work as one of a team he has the support of the group and a clear sense of the contribution he has to make, and he disciplines his products accordingly. But if he chooses the isolation and insecurity of working as an individual he must not be badgered to give what society expects of him. If he is a true artist he will be more sensitive to what society needs of him than his critics. The artist not only reflects his own time but makes explicit what is vague and undefined in feeling, and in foreshadowing the future helps to bring it about. We are able to grasp and accept hitherto unrealized facets of life because they are presented to us in a formed and integrated whole by the artist.⁷

⁷ This is an aspect of *gestalt* psychology waiting to be explored.

Craftsmen in Industry

IN THE SECTION ON EDUCATION THE PRINCIPLE BEHIND THE selection of crafts for education was discussed, though the actual crafts suitable will, of course, vary with the traditions of each culture. Bearing in mind the conclusion that the craftsman is distinguished by his attitude to his materials and to the function his product serves in a world of human beings, it is necessary to consider the different spheres in which craftsmen work.

There is the artisan, who has the intention of doing a good job for his customer, but is not consciously artistic. He is not striving after personal statements.

There is the artist-craftsman, working alone, or with a team who carry out his ideas, whose works are conscious statements from him, as an individual.

There is the artist-craftsman working as one of a team, each doing part of a whole job (as in typesetting, illustration, and binding of books), and therefore sharing similar ideals.

There is the artist-craftsman serving as designer or consultant for an industry, possibly with a laboratory team at his disposal for experiment.

I am not concerned with the artist or designer invited into an industry of which he knows nothing, to give the product some artistic appeal. This usually results in something much worse than the straightforward machine product.

Since this book is specially concerned with education, it is worth asking which parts of his final equipment a designer or craft-consultant must owe to his general, as distinct from his professional, training. An industrial designer needs to be a person of wide culture; he should be one who is interested in human beings and their emotional response to his designs, rather than a trained psychologist; he must be a sufficiently competent draughtsman to express his ideas in visual or constructed forms, so both constructive and craft activities should have had

a place in his schooling; he must have made a study of history to relate forms to the uses of their period; his knowledge of languages will facilitate exchange of current ideas. One would hope that the basis of these studies had been laid in general education. But the original, the creative gift in the successful designer, if it cannot be produced in school, is often destroyed by schooling.

In Part Three, Chapter I, a German industrial designer spoke of the necessity for sometimes finding time to weave cloth out of handspun, vegetable-dyed thread "just for our own happiness." The Finnish spinner spoke of the sensitive contact between spinner and raw material, which must be a daily inspiration to the work. Then we have the "intoxication" of even the hardened potter with clay, and the reference (p. 146) to Lütken, "seduced" by his material. While admittedly some designing is done from a completely rational objective standpoint, there seems to be sufficient evidence of a need in the creative mind to keep the capacity to respond wholly, to open oneself to experience without reservation. This can be destroyed by an education which emphasizes restraint too much, which elevates balance above all, and which teaches reliance only on those things which can be logically proved.¹

To-day the foremost minds among our scientists see how fallible and how limited is the grasp of any one man of even those areas of knowledge which had been thought "logically proved." Professor Polanyi,² in his own words, "tearing away the paper screen of graphs, equations, and computations" and laying bare "the inarticulate manifestations of intelligence by which we know things in a purely personal manner," has written thus:

Personal knowledge in science is not made but discovered, and as such it lays claim to establish contact with reality beyond the clues on which it relies. It commits us, passionately and far beyond our comprehension, to a vision of reality. Of this responsibility we cannot divest ourselves by setting up objective criteria of verifiability—or falsifiability, or testability, or what you will. For we live in it as in the garment of our own skin. Like love, to

¹ Speaking of the functional arts, in *Art and Society* (Heinemann), Sir Herbert Read says, "It is true that there is an extreme school of functional engineers for whom there is no antithesis to reason, but their works make no claim to be considered works of art. On the other hand there are modern architects, and among those the most notable, who fully recognize the necessity of allowing some play to impulsive and irrational elements."

² *Personal Knowledge*.

which it is akin, this commitment is a shirt of flame, blazing with passion and, also like love, consumed by devotion to a universal demand. Such is the true sense of objectivity in science.

This form of personal knowledge is at present the privilege of a few research workers in science, and whether such a point of view can ever be put over in the scientific education of every child I do not know. It certainly is not feasible in present conditions. But such a sense of commitment, such intimately *personal* knowing, not of the wide sweep of human knowledge, but of a small fraction of one aspect of the material world, is a possibility for every one who practises a craft as the student of a real craftsman.

I have argued that the sensitive artist-craftsman, exploring material and form, is as necessary to any civilization as the pure scientist and the mystic. But to-day the production of goods for the neighbourhood, which in themselves embodied certain values of simplicity and utility, is being taken over by industry all over the world. In what ways does the craftsman come into contact with industry, or influence it? In the first place, he is a part of the mental climate in which we live, responsive to it, and influencing it in his turn. The sensitiveness to developing trends is illustrated, for example, by Brancusi, the sculptor. When, as early as 1916, he made his famous "Bird in Space," he had already moved away from naturalism so far as to capture the very essence of speed, in a form which anticipated that arrived at from very different premises by the scientists for rockets, the fastest engines known.

There are three more specific ways in which the craftsman may influence industry:

First, without becoming a full-time industrial designer, the artist-craftsman can co-operate with the industrialist on the job. Adopting an even more flexible arrangement, some firms find it worth while to keep one or more artists working freely on the premises, picking up and using an idea from their work when it has economic possibilities for reproduction.

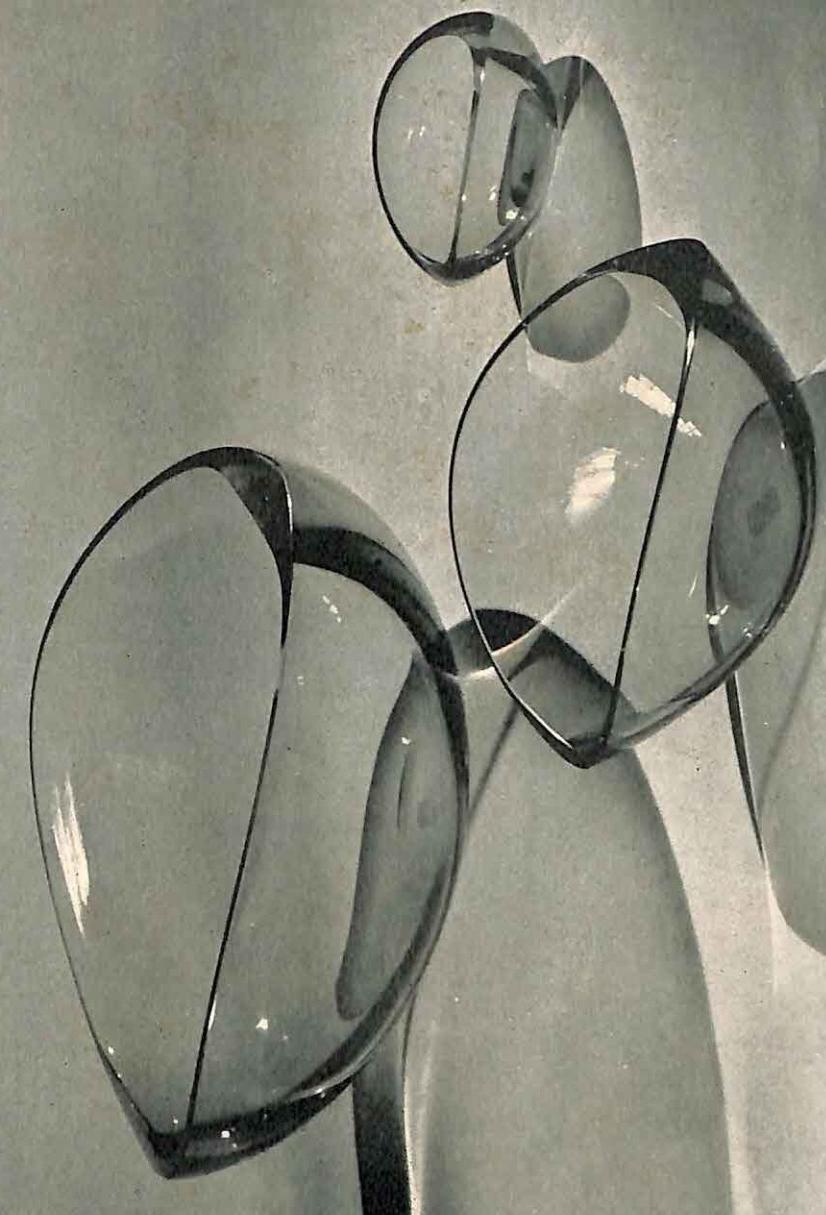
Secondly, designers in industry have often gained their knowledge of materials by being taught by craftsmen either in college or privately. It is an interesting fact that one of the largest and most progressive textile manufacturers in England thought it worth while to send his son, who would become managing director, to learn, not only to weave, but to spin, with our fore-

most handloom weaver. This illustrates the indirect influence of the artist-craftsman on industry (cf. Marianne Straub, p. 112).

Thirdly, even the artist-craftsman who does not teach, and who never comes in direct contact with the industry, is having an important effect on it, if by his own productions he is making the public more aware of standards in that material. He may offer objects so beautiful and satisfying that purchasers, having seen them, are dismayed by what machine production usually offers (see Eva Antilla, p. 112). In this way a demand for better things is created which slowly impinges on industry, and good design is seen by manufacturers to be sound economics.

In considering how far the handcraftsman can be directly useful to industry as designer or consultant one of the crucial facts to take into account is how far the basic processes of that industry are the same as those of the craft, but multiplied and geared to some source of power. This is substantially true of the weaving industry, where the technique discovered by Neolithic man of building cloth structure by weaving one set of threads in and out of another at right angles to it remains fundamentally the same. The modern automatic loom employing synthetic fibres and operating at phenomenal speeds is still using this fundamental technique. Industrial weaving designs are still tried out on a small handloom, and many of the best originate through discovering some unplanned effect in this way. So the craftsman-designer has a necessary place in the laboratory of the large-scale textile industry.

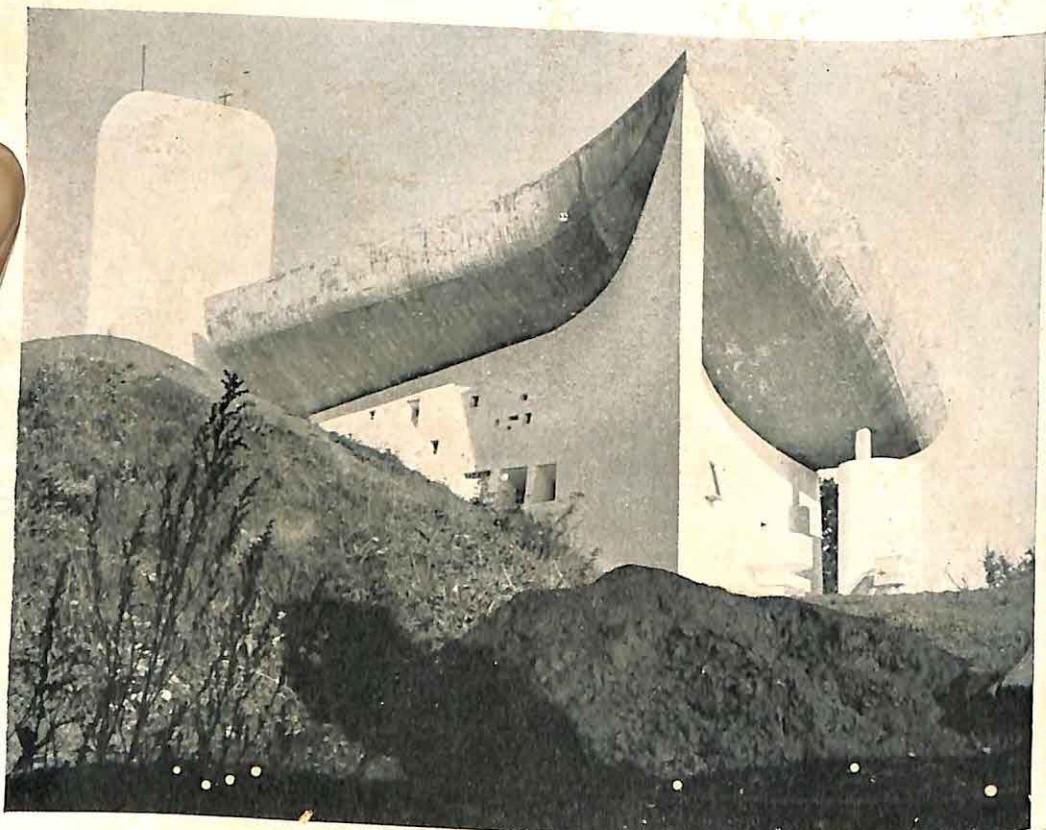
But with the large pottery industry, for instance, things are very different. The fundamental ways of making pottery by shaping from one piece in the hands, by coiling, and by throwing on the wheel are not used in the pottery large-scale industry, or only for a few specialized items. There, fundamental processes are jiggering and jolleying and slip-mould castings. The craftsman's experience of throwing has, as such, almost no bearing on these operations. True, skill is required, and there is still an extraordinary need for acquired skill in pottery operatives, but the skill required for operating a jigger is completely different from that of a thrower. It is only in the original design of the prototype that not the skill, but the knowledge and understanding of the craftsman-potter can find a place. Even here it might be argued that a teacup produced in mass by the jigger can be designed with reference only to that machine and its possibilities, and has nothing to do with the qualities of a teacup



Glass by Per Lütken of FINLAND showing the beauty of asymmetrical shapes and edges of varying thickness.



Bridge designed by Maillart, SWITZERLAND, leaping the valley with delicate strength.



The church of pilgrimage at Ronchamp, FRANCE, by Le Corbusier, highly practical yet an original and lyrical work.

produced by throwing. But a teacup is made for a human being to drink from, and centuries of experience in searching for shapes which are easily handled, and rims which are acceptable to the lips, cannot lightly be discarded.

The most fundamental aspect of the relationship of the craftsman to industry is in the origination of forms. However many thousands or millions of the final product are turned out by the large-scale industry, some one has always to design the first one, the prototype. This depends on a deep comprehension of three-dimensional form, an understanding of the subtle variations, of the complex satisfactions of conical and spherical shapes (rather than of a simple geometrical manipulation of such shapes, which can be worked out on a drawing-board). The human body, in intimate contact with such objects, seems to respond more warmly to organically inspired forms than to purely geometrical. In addition, the human spirit seems to require in objects which most intimately surround it (especially those things we put to our mouths and the furniture and textiles against which we curl our bodies) not the complete impersonality of the machine but a hint of personal concern. It is only by exploring form that the designer can arrive at new and better forms for these things, and it is only by handling the material—not alone by the abstractions of the drawing-board—that he can give his products, even if mass produced, this sense of responsive concern for human needs.¹

Even where the designer cannot work directly in the material himself, some of the best work is done where he builds up a relationship with his material analogous to that of the working craftsman. The designs of Per Lütken are worked out by Holmegaards Glaswerk, but even after a long collaboration of fifteen years with the blowers he fully appreciates the value of being present in the glassworks during the blowing. His paper designs show that he is able to put them in an exact form for his collaborators—but nevertheless he does not trust them to be sufficiently illustrative, and that is why he is present

¹ The journal *Design*, No. 132, Dec. 1959, published in London, contains a sympathetic and fascinating account by Nikolaus Pevsner of such a one, Gordon Russell. He progressed from covering a leather chair in his father's workshop by way of making, designing, and marketing furniture, always using fine materials with feeling. He became director of the firm—famous for its standards and its original use of material—and, finally, director of the Council of Industrial Design, which reveals how much one devoted craftsman can do in industry in the public service.

in the workshop when the models are shaped. A critic² writes:

I have watched him there and seen his delight in designing and shaping this fantastically live material. But this delight and intensity of the work is fully shared with—or he almost transmits it to—the glassblower. This is the only way of shaping fine products. This is the way how they, designer and craftsman, learn to know the language of one another, and this is the true foundation of collaboration.

It appears that there are rhythms in this relationship of artist-designer and industry which have to be allowed for. It is not a question of expecting a big industrial concern to jeopardize its schedules for the waywardness of an artist, but simply of maintaining a relationship flexible enough to give conditions for original work. Lütken's career seems to have been an alternation of long periods of skilled responsible work on the day-to-day jobs of producing moderate rather than strikingly original work, with periods when he was "seduced by his material, when in his enthusiasm he allowed himself to be seized by his material." In those phases he has produced unique works of a striking nature, developing new possibilities of glass. This responsiveness, this rapport with the material itself, has resulted in a new method, in which the reliance on the natural forms taken by the glass gives great strength and clarity. The supreme certainty of a master allows him to accept the 'natural' edges, not only obviating the necessity for finishing treatment in cutting the edges, but giving the objects the suggestion of forms which are just in the act of slow, viscous swelling. "It is as though we were permitted to see nature in the very act of growth."

The difficulty of keeping the creative part of one's nature alive working in the day-to-day conditions of industry is also stressed by the Danish architect, Bent Salicanth.³ He writes:

When people in various trades are busy making furniture, cutting out clothes, or doing anything else, there will always be a desire now and again to do something which is not an order from a customer, something which one has not been asked to make at all, but which is nagging at the mind.

He speaks of the incentive of exhibitions at which the cabinet-makers or other craftsmen are judged by *one another*, producing an "internal secretion" within the industry itself. (This seems a

² Arne Remlow, in *Dansk Kunstaandwaerk*, 2-10 (Danish Society of Arts and Crafts and Industrial Design).

³ In *Dansk Kunstaandwaerk*, 9-10. Compare with Kurt Hentschel's similar comments.

more valid and valuable criticism, and is usually more acceptable than that of professional "critics.") He goes on to point the danger of too frequent public exhibitions, in provoking designs calculated to arouse attention rather than designs good in themselves. He deplores the need to get out something new for an exhibition as an interruption in the years of unremitting work to bring one problem in furniture design to its full solution.

Danish furniture offers an example of a supremely successful amalgamation between the designer and the working craftsman. It is to be wished that some one inside it would analyse this successful set-up for the benefit of other industries which have made only an uneasy partnership. From the outside I would hazard a guess that there are three factors.

Twenty-five years ago, as now, the furniture designers of Denmark were mainly young architects,⁴ who, like young architects in other countries, were alive to the need for better design and furniture appropriate to a more flexible, less work-ridden type of domestic living. But two conditions favoured the Danes. One was that in a predominantly peasant country with few mineral resources there was still a good number of skilled craftsmen working in wood, the traditional material for furniture. Such craftsmen had practically disappeared from the industrialized countries before the architects and designers woke up to the need for such collaboration. A second factor was that the social climate of Denmark, essentially one of respect and equality among men, fostered the mutual responsiveness of two men of such different backgrounds and training working together, and maintained the independence in the small workshops, where the joiner felt personal responsibility. Finally, the architect-designers saw that such a collaboration built up over the years is a delicate relationship worth preserving, so that whatever his other commitments, one designer tends to maintain a working relationship with one joiner's shop so that they "get to know one another's language" (as was said of Per Lütken and the glassworkers). So we have the fortunate set of conditions to which we probably owe the very fine furniture for which Denmark is famous (page 129).

⁴ But Johan Rohde, to whom many young designers owe their inspiration and ideals, was a painter who was an outstanding influence on Danish functional arts early in this century, especially in furniture and as assistant to Georg Jensen, the silversmith.

In every piece of Danish furniture we are able to feel the craftsman's hand of the furniture-maker searching over the surfaces and profiles. Even when they are using bent veneer sheets the curves are not simple geometrical ones, but they are modelled so that the hands of the spectator go out as if to touch or stroke these forms. This furniture owes something to modern abstract sculpture in wood, in which form is freely explored. These light, elegant pieces of bentwood furniture also invite rearrangement in the room, and a consequent heightening of our consciousness of the space and relationships between them.

This feeling for space and the objects set within that space is one of the salient features of contemporary Brazilian interiors. The need for a through current of air results in a very open planning, and the uninterrupted space thus achieved is emphasized, by deliberate accenting; this owes much to Japanese conventions, which are refreshing in a country with Baroque traditions. In the Palácio da Alvorada, at Brasilia, the retention of this sense of space by large areas of glass walls and magnificent wood floors allow the rich accents of a gold mosaic wall, a black marble-topped table, or an acre of flame velvet curtains to tell fully. Here—surely unique among palaces—is a building in which architecture and furnishings give a rich and dignified setting for ritual without impeding daily living (Frontispiece).



Sketches for tapestry by Genaro de Carvalho, Bahia.

Towards Integration

I HAVE ALL ALONG EMPHASIZED THAT IN ORDER TO GO FORWARD to an organic unfolding of human possibilities we must be rooted in the past, in the sifted accumulative experience of human beings, drawing strength from that "sap which issues from the compost of ages." And I have tried to show that to develop technology further, to multiply machines, is not necessarily to go forward. It is in our *selection* from multitudes of machines, and of devices, and of experience open to us that we choose our direction.¹

The great majority of people in any group are drawn forward to new experience by the few who, with courage and often in great loneliness, push out the boundaries of human knowledge and human experience. In the past the creative thinker could probably expound his new ideas or discoveries to any educated man willing to give attentive hearing, because there was sufficient common background of knowledge. The artist-craftsman making technical or aesthetic advances could count on a sufficient experience of a similar kind from those who would view or use his work to give to *him* a sense of serving the community, and to *them* a sense of sharing in his experience. But in a technological society more than most (for the reasons outlined in Part One, Chapter 2), the essential creative experience with *things* is possible only to a very few, to the foremost scientists, to the few original designers of furniture, of aeroplanes, or of atomic-power stations. (Many who are termed 'designers,' of motor-cars,

¹ Sometimes this must be a personal choice as simple as that between spending money on a machine which will give a mother leisure to be more with her children or on a large-scale entertainment; between levelling a garden with a machine which destroys the trees or doing it more laboriously, in order to preserve them. Sometimes it must be the choice of a government, as in the encouragement of hand-spinning at home, in India, in order to maintain for many persons the self-respect that comes through productive work, rather than a too sudden, too widespread change to factory-production, which would result in unemployment in the villages, and in the breaking up of families.

of furniture, of clothes, are mere 'adapters,' watering down the more daring and original ideas till they are acceptable to the large numbers of purchasers which mass-production demands.) But more important, the investigation and data of the scientists and technicians are too remote from most of us to allow us to see their problems, far less to participate through appreciating their creative work in the solution.

But one of these growing-points of experience in this age is very close to us all. Architecture, which had produced few truly original forms in any part of the world, nor significantly altered conceptions of human living for the past few centuries, has in the last thirty years taken a momentous step forward. The seeds of its new ideas are scattered over the world, sprouting in Tokyo, in Berlin, in Brazil, in the American mid-west, in Italy. Small nations like Finland and Holland are as likely to throw up their geniuses as those of great technological resources. But, more important, the achievements of contemporary architecture are within the comprehension of us all. Because it deals with a basic human need for shelter and amenities, which we have experienced in our own lives in common with men of all times and all continents, we are involved in these problems, and can share either vicariously or actually in the successful solutions.

The best of the new architecture recognizes that human beings will not fit happily into abstract planning of a scientific kind. It concerns itself with the need for order and seemliness, yet not rigid formality and symmetry; for a stability on which we can rest, yet no constricting framework; for the stimulation of variety and contrast within an agreed conception of the whole. Contemporary thought in architecture has carried it to a position where it is a true synthesis of art and technology. But the actual experience of *creating* in materials on this scale is absolutely closed to all but the architect, one in many thousand of the population. The comparable experience anyone can have, within the limits of one man's work with his chosen material, is the experience of craftsmanship, perhaps making flower-pots, or rugs, or bookshelves, making one small part of the formless, undifferentiated raw material of this world into something which serves men's needs and delights the senses.

I believe if young people with this experience were led to look at contemporary architecture as a larger communal expression of the thing they have been trying to do, almost as a fulfilment of it, they would be enthusiastic about its forms and use of

material, for architecture, like craftsmanship is "the expression of a spiritual idea in material form."

If I go back to the nature of craft experience this will be clearer. It seems almost crude to try to put this experience into words, because it was so much a part of ordinary people's awareness a few generations ago—and still is for the greater part of the world to-day—that it was never necessary to put it into words. But to-day so many people have no opportunity to practise a craft even for a few years, that most of those who direct educational policy, who choose our public buildings, who staff our universities, cannot know by experience. In a craft the body, mind, and whole personality are equally involved in finding a form which will satisfy the body, mind, and personality of others who use it. Sometimes the solution is intuitively apprehended,² sometimes the purposes to be fulfilled may be logically analysed, and from a number of possible solutions one deliberately chosen. At every point in both methods of working, however, selections are made on a basis of 'feel,' a sense of 'rightness.' And the finished product makes its appeal—which cannot be logically analysed—on that level. Beyond the mere fact of working well, of doing its job, which we have the right to expect from any reputable mass-produced product, there is the sense of incorrigible, irrevocable *verity* which we feel when we handle a piece of craftsmanship intuitively shaped for human beings to use. It entices us to let ourselves go in the enjoyment of it, and in its use lifts an ordinary task to another level of experience.

Is it reasonable to claim that this opens up avenues for the appreciation of contemporary architecture? I believe it is.

A few years ago both the architect and the engineer might have seemed to be starting from a conception of their job so different from the craftsman's, and with such a different mode of working, that their work could not offer the adolescent or adult working in craft any larger sense of fulfilment along the same lines as his own work, nor could the experience of craftsmanship enable him to enter imaginatively into theirs. But I think that this is no longer true.

In Western Europe there was no major advance in architecture after the great feats of the Renaissance. There was

² Basil Spence, the architect of the new Coventry cathedral, in England, described how, when he visited the bombed, burnt-out cathedral and allowed the impact of the ruin, with only a scarred fragment standing, to be borne in on him, the whole idea of his new cathedral building took shape within his mind in five minutes. Later, of course, he had to spend months on working it out in detail.

variation and elaboration of previous styles, all kinds of combinations and revivals, many confusions and follies, but no driving force, thrusting forward, shaping a new architecture. It was with the Industrial Revolution in England, and the demand for new utilitarian *forms*, with the availability of new or perfected *materials*—a much greater use of iron, and later, steel and concrete—that a revolution in building took place. Most contemporary architects in Europe and the Americas would acknowledge their debt to the Crystal Palace—a great glass-house made to house an exhibition. A new demand—to cover a huge space at short notice with one roof, admitting as much light as possible—was met by a new form. The essential structure of steel girders had been explored in bridge-building. The type of building which developed out of the early iron bridges and the Crystal Palace—fundamental construction arising from the nature of the problem and the materials unhampered by ornament or “style”—has spread to all parts of the world. It has been used in the construction of warehouses, of grain elevators, electric power-stations. But it became accepted as *architecture*, as fitting for homes and public buildings and churches, only when the ideas behind it were crystallized into a philosophy. That philosophy was “fitness for purpose” proposed as the final criterion for every man-made thing, not only architecture, but furniture and utensils of all kinds.

Such a doctrine had a cleansing effect, sweeping away the accretions of time and convention, and resulting in sound construction, clean lines, and plain surfaces. Untrammelled by preconceived conventions of what a building should look like, it concentrated with a puritan insistence on the barest forms. As I said, this idea of fitness for purpose was pushed beyond its proper limits, and what was fit for its purpose was pronounced to be beautiful, to have the only true beauty, thus confusing the issue. Nevertheless, it is helpful to remind ourselves of the sincerity and devotion to an ideal of the young men working at this time. A Danish designer³ writes of his contemporaries in the 1920's thus:

We sought the synthesis, the pure, the unadulterated, serene model. For instance, not a lamp but *the lamp*; not merely a beer-glass but *the beer-glass*. And we held that purely functional form was beautiful, just because it was nothing but functional, self-effacingly neutral, and anonymous.

³ Jacob Bang, writing in *Dansk Kunstaandwaerk*, 1956.

Speaking of a particular lamp, he says:

Miraculously formed on its own intrinsic logic, it somehow set free something in us, there was something of a cult in the enthusiasm and worship with which it was received. . . . That lamp and that beer-glass seem to me so characteristic of the line of thought which constantly circled around and tried to lay down the principle that the design carefully planned to fit its purpose automatically yields at once the most serviceable utilitarian model and the most economical make, and so by virtue of its logic becomes the only possible aesthetic solution. It was felt that this lamp and this beer-glass had solved the problem definitely. There was nothing to be added or deducted, it was simply the final word in the matter. Now looking back it is easy to see the absurdity in this view.

But it was an ideal which cut away dead flesh and got down to the bare bones, the structural skeleton of architecture and furniture. Using the new materials, factories, hospitals, houses took on a clean bare look, and sterile efficiency banished even pictures and sculpture. In exploiting—in its best sense—steel and glass and concrete as building materials the new building arrived at something excellently economical of materials, refreshingly free from cant, but a little hard, cold, and inhuman for people's homes. This kind of building stood in *opposition* to the natural surroundings in which it was placed. It pronounced the work of man to be *as different as possible* from the world of nature. And one school of thought at least, which moulded influential architects, saw horizontal and vertical lines as the final assertion of man's logical mind, and the manipulation of the spaces between them as the last possible refinement of statement. But there is a certain arrogance about claiming finality for any single human statement.

This movement, at first a healthy challenging force, reached its stalemate in its own reliance on logic. The change of feeling now perceptible in the air can be seen clearly within the cycle of the life of the great architect, Le Corbusier.⁴ It was in a phrase of Le Corbusier's that the new ideas of architecture influenced by engineering and factory production came to be summed up: "The house is a machine for living in." The new conception of the house swept away stupid anachronisms, made a fresh start

⁴ That Le Corbusier has always had a strong feeling for the human as well as the abstract is shown in his long search for 'the Modulor,' a measure which would combine the British system of measurement by human dimensions, the foot, the yard stride, etc., with the continental abstract measurement by the metric system.

by looking at the basic requirements, and opened the way for the kitchen planned as sensibly as a factory bench. It introduced the conception of the whole house as a living area divided only partially or not at all into the areas where different activities took place. But while it had this excellent effect it aimed at a logical structure, planned from the available facts, rather than at a *home*. And it suggested that it was possible to produce a house in a factory, and set it down anywhere irrespective of the locality and site. This conception was of an architecture which ideally should be logical, impersonal, and ubiquitous.

Behind it lay the assumption that if this was the best logical answer to the material facts, then this was the best house, and human beings had better learn to live in it and like it! In the great industrial centres, at least, mass-produced units which can be assembled *in many different ways*, and for many different groupings and kinds of people, hold out the hope for the future. How is it possible to reach a compromise between the logical planner's attitude and the obstinate desire of each family to have its own house as it likes it, which has too often resulted in the devastation of the countryside and the monstrous inanities of the suburbs? First we must recognize that this obstinacy to an ideal is the only means of protest most people know against being fitted arbitrarily into the logical pattern of the planner. They revolt by asserting that they are individuals and value other people as individuals—even if their assertion takes silly forms. Only after their individuality has been recognized, and given the greatest reasonable play within the whole, are people willing to give up some measure of it for the good of the whole. So much depends on the attitude of the authorities and their willingness to study the people they are dealing with, to give them opportunities to express their views, and latitude to be individualistic in ways which do not harm other people. A great deal can be done by giving opportunity to voice protests, and by offering patient explanations of the plan. Education too has a great part to play, not only in allowing, but actively encouraging, children at those stages of their growth when desire for individuality asserts itself, and in providing creative activities for young people and adults to develop as individual personalities. Only two kinds of people can sink their personal desires in a larger whole; those who have not emerged as clear individuals because they get their satisfactions through the achievements of the tribe, group, or family to which they

belong; and those who have been permitted or encouraged to become fully aware of themselves as individuals, who then go *beyond* that point. This is one reason why education in the arts is crucially important for the solution of our contemporary problems. It reinforces the incontrovertible sense of self in the artifact "made by me" existing in the world. This artifact, in turn, mirrors the same self, and demands criticism and re-appraisal. Only such a fully developed person can assess the worth of the greater whole which demands his allegiance, and, without any sense of frustration, voluntarily modify his extreme individualism to fit into the larger plan. This is true of a group working on scientific research, or a team of educationists, but it is in the sphere of architecture and town planning that it affects every one of us.

Logical planning was popularized under Le Corbusier's dictum about the house being a machine. But it is Le Corbusier himself, in his old age, who has shown us the clearest example of the emergence of a new point of view, very different from that of "architecture asserting itself against the apparent disorder of nature." He has built not only the great Unité d'Habitation at Marseille as a solution to problems of density of population while preserving the countryside, but he has also built private houses which seem to grow from their surroundings as naturally as the trees. They use only organic materials, and are deliberately designed to relate themselves in form and colour to their background, so that one feels man is living in; and is of, his environment. This is a healthy relationship. However magnificent the great dams and towering elevators, which are rightly impersonal, communal structures, this is a healthy attitude to preserve as a corrective, as a reminder. It speaks of a care and concern for the earth, and an appreciation of natural materials where they are appropriate. It mirrors a wish to enter into relationship with, rather than assert man's intellect against, the world. It is an attitude which is fortunately reflected also in the change of attitude towards the soil itself. When pioneer settlers in several parts of the globe saw the apparently limitless wastes to be put under cultivation they were prodigal and wasteful. They cut down forests which preserved moisture and provided shelter, they sucked the earth of its good with repeated cropping till it was worn out like a battery hen, and the result was the dustbowls. Now our attitude to the earth we live on is more humble, and our claims for modern advances more cautious.

We have no cause for complacency so long as we allow hundreds of miles of good agricultural land to be eaten up by the haphazard growth of scattered cities.

Along with this more cautious attitude to scientific discoveries goes a re-emergence of faith in intuitive values, and in the personal as well as the general statement. A material example of this in architecture, a sensitive pointer in the new direction, is the church at Ronchamp, by Le Corbusier. Here, in what might seem one of the most formal, the most communal of the arts, the most dependent on factors outside the designer, here is a lyrical thought, almost a fantasy in material, in concrete, wood, and coloured glass. It springs from needs and traditions rooted in the spot, and, being a church of pilgrimage, it first focuses attention by its great white bulk on the hill-top, and slowly, as one approaches, resolves itself into the nave, roof, and towers, each designed to fulfil a specific purpose. Yet it is as much one man's statement as a poem is: as much and as little, for the metaphors which spring to mind are age-old ones of common human experience "précis comme un navire, libre comme un jeu." Notre-Dame du Haut, where the Virgin finds her niche above the farmland "comme la colombe dans les trous du rocher." Startling in its originality, it is yet not self-sufficient, but *collaborates with the elements* to delineate its form. The sun and wind are integral parts of its architecture, and their interplay provides the decoration—the shadow of the great roof cast on the plain walls, the light captured in little traps of coloured glass, and led into the interior. Its massive simplicity links it with the primeval hills around. Yet the heavy concrete has a spontaneous upthrust from the ridge, like a winged creature that is of the earth and yet knows itself not of earth alone. Perhaps it is a parable of the human soul (page 145).

A different facet of this increased rapport with nature rather than opposition, is the work of Alvar Aalto, in Finland. Not only has he exploited the regional substances of his own area, in an age where identical building materials tend to give the same face to cities whole continents apart, but his work in wood holds hints of Baltic ship-building techniques, warm with emotional overtones, which are yet saved from sentiment by a taut virility. Here contemporary thought informs traditional materials.

The physical and dramatic effect of solid curves encircling or protecting masses of people is wonderfully exploited by Nervi, in the Stazione Centrale at Rome, and in the Stadium at

Florence. The emotional effect of these huge structures is at the same time protective and exhilarating. This is a truly communal architecture, arrived at, not simply by a rational deduction from the given facts, but by an intuitive appreciation akin to the sculptor's, of the effect of certain shapes on the deepest levels of body-mind. The new Idlewild International Airport at New York, a concrete structure of struts and sweeping uplifting wings, seems to offer a similar exhilarating experience so that the senses are keyed in anticipation of the transition from earth to air.

Yet, if we welcome this sense in an architect as a proper and natural attribute which had somehow got lost and is found again, to discover a similar attitude in a bridge-builder gives us a shock of surprised delight (page 145).

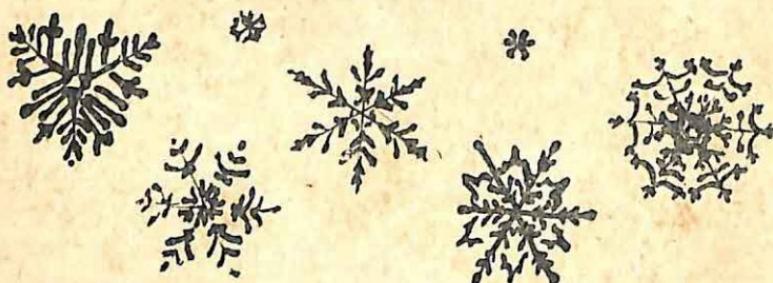
Even in an activity apparently so remote from that of the sculptor as bridge-building the Swiss engineer, Maillart, has advanced from the position of mere functionalism to one very close to the artist's. When he writes, "It is not only the feeling for beauty which makes desirable the conception of the whole above that of the single elements, seeing the structure as a whole nearly always brings economical advantages as well,"⁵ he is taking for granted that the builder will be concerned with beauty, and that therefore he has to defend his ideas on other grounds—the financial. Maillart fully appreciated that his mathematical calculations did not dictate the finished form. His technical foresight grasped that it was unnecessary to fill in with solid concrete the spaces between the structural members of a bridge, and this resulted in a great lightening of the whole weight, and a saving in material, but also it involved the spectators in sharing the understanding which this exposure of structure gives. It is, above all, in the superlative curves of his bridges, which seem to leap from rock to rock above the Alpine gorges, or to hover poised over steaming torrents, that we are deeply satisfied. When we drive over them we are aware of the ease and rightness of the curve of the road, clean as the sweep of a stair-rail designed to lead us to where we would be. When we approach them up a long valley, or catch a glimpse of them from the rocks below, we see these man-made insertions to the wild scene as intuitively right. They are different in form, but belong to the same order as the mountains and rivers themselves. "Maillart's works are conceived in such a daring and uncompromising spirit that they rise above the purely technical to

⁵ Maillart, by Max Bill (Les Editions d'Architecture Elenbach, Zürich).

genius. Maillart's vision has the creative power of an artist."⁶

These are examples of a new awareness of human beings as total persons by other human beings acting, not only with instruments and techniques, but with a more complete and open awareness to the whole situation. Instances could be multiplied from psychology, from anthropology, from medicine, from education, and other fields. Those who hold the scientific viewpoint, which was often aggressive and dogmatic when it needed to assert itself against the obscurantism and superstition in the western world, are now so secure in their triumph that they can afford to admit that there are verities outside its scope. I believe that in many fields the emphasis is now less on the things which can be precisely measured and more on the imponderables behind thought and feeling. I dare to believe that we may be on the brink of a re-emergence of intuitive values. But we have almost lost the uncodified, unconscious knowledge of how these values can be kept alive, and how belief in them can be strengthened and tested, till they play their proper part in important judgments and decisions which affect us all. Education in the arts is one of these ways, and the practice of a craft is one of the most potent and, moreover, one which is open to all types of people. Through it simple and learned people alike can have the experience of creating. There is a sense in which God alone creates. But He has created in us the creative spirit, and if we do not use it in ourselves, and nurture it in children, to be employed on the world in which we live, we stifle the part of us which is nearest to the divine.

⁶ *Maillart*, by Max Bill.



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The object of this Index is to provide useful references rather than a complete list of proper names.

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